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Original Articles.

SPECIALISM.

JOSEPH PRICE, M. D.,
PHILADELPHIA.

Literary and Academic societies are of early history. Societies for the promotion of knowledge or enlightenment in the line of specialties are a product of the nineteenth century. They are an outgrowth of a recognized necessity among students and scholars for the organization of society institutions for discussion, collection of facts and comparison of results. As we have advanced in knowledge, and the field of our labor has broadened in pace with it, these societies have increased in number and become more specialized. From the State organization of specialists we have the International Congress as a natural outgrowth. The chief advantage of societies of specialists is that they focus, systematize, investigations. The most modern and triumphant specialism is that of abdominal surgery. It has made recent signal advances. In only rare instances did the old surgeon venture to enter the abdominal cavity, while the surgeon of to-day enters with marvelous skill and success. Experience and careful experimental research by specialists have simplified methods and are rapidly doing away with timid manipulation. In this line the command of exactness has something of military certainty and emphasis in its sound. All the major cases in abdominal surgery come properly within the sphere of the specialist by their very nature. To deal with them successfully requires aptitude, special training, the power of rapid manipulation, precise and dextrous use of instruments. There may be some danger in so exaggerating our specialties as to make us lose a wise balance as physicians. The essential conditions of good work are a sound, enlightened judgment, accuracy of physiological knowledge, careful study of the causation of diseased conditions and of the best methods of applying our scientific knowledge to practical use. The respective fields of the specialist and general practitioner are not so widely separated that their several success is not dependent upon their study of the same conditions.

We do not find it difficult to separate the all-around-doctor from the specialist when we consider the definite field of the one and the broad, limitless field of the other. But we maintain that within the lines of our profession there are no successful specialists who have not had extended experience as general practitioners; whose best equipment, most valuable professional treasure, are the deep-bedded lessons of such experience. The recruits of the ranks of specialism, all those who have reached the high water-mark of success, whose names are written large come from the ranks of the general practitioners. Conditions keep them within the hoop of the same horizon. The one important lesson for both to learn is where the domain of medicine ends and that of surgery begins. In the lines of no one of

our specialties will a superficial training answer. The old practitioner with his vast general experience, his varied knowledge, his mastery of very many branches, his careful study of his work, and its results, his quickness to recognize the deviations from health in special organs, his knowledge of their relationship and influence on other organs preeminently fit him for some specialty if his taste and love for the work directs him that way. It should be carefully marked that taste and love for a special line of work is essential to success. In general practice every doctor has the conviction that there is some one thing in which he is better, more successful, than in another. And it is likely that his constituents, while they recognize his general ability, further recognize that he has a specialty; they speak of "our doctor" as being specially good in certain diseases. And in these diseases his neighborhood brothers of the profession call him in as consultant. These men are representative of the old school specialists. And we congratulate the profession that we still have some of them left. We rejoice that we still live in the midst of these old-fashioned practitioners. For in the terse words of a eulogy on a distinguished surgeon, "More than any men they have helped to make us gentlemen."

The new specialist is a mushroom growth,—he is an embryo product of our modern schools. He elects his specialty before he leaves college. After graduation he announces that he is to make nervous diseases a specialty, or he is going to be an oculist, a gynecologist or an obstetrician or at a bound he is going to be a laparotomist,—he will not bother with the minor details of gynecology but will walk straight into abdominal surgery. Or it may be that in his aspiring he may want to climb into ethereal regions and he selects electricity as his specialty. It is a gratification to know that the specialists from the ranks of the old school practitioners stay on the earth and have their offices on the ground floor. These new specialists aspire to do work without giving due consideration to the special and general qualifications essential to its successful performance. These incipient specialists do mischief, are more hurtful to the general profession than to themselves. They are but small items in the account, yet with all there is no danger of the highway of specialism becoming crowded,—along it only the fittest can survive. There is no element of the saint in disease and often it takes the most trained intellect and hands and a high courage to deal with it. He can only prove himself fit for the specialty he professes by what he knows and by the sequal of what he does. The experienced mechanic does with his eye that for which the apprentice requires a foot-rule; the specialist's work must be something of a worship, he must be ever seeking new revelations, unpublished facts.

Too largely does a purely business or mercenary element enter into the motives of the new specialists. The ambition, not altogether American and very human, to "get rich quick" is the predominant incentive with many. Large fees fill the imagination and distort the vision. It should be remembered that to command large fees is first to become preeminently expert. The specialist and the general practitioner meet on common ground each aiding in educating the other, each contributing the materials of their general or special knowledge to the building up of an accurate and comprehensive medical science. All of us must sometime feel that we have met with a trouble with which we cannot successfully deal and that we must summon the aid of one who has made the trouble a special study.

Our medical and surgical literature—old and new—bear witness to growth through many generations. The earlier

history of surgery is chiefly that of battle fields, the dealing with spear- and arrow-head wounds, and many of its advances were due to new forms of wounds inflicted by new instruments of warfare. Though our modern surgical practice is founded on a scientific basis, many valued lessons in operative procedure come from our late battle fields. It impresses us as somewhat strange that such long intervals of time should separate the more important advances in both medicine and surgery. There was very early a subdivision of practice into many specialties, and the specialist, jealous of any special knowledge he might possess, kept secret the more dexterous special operations.

The change has been a radical and welcome one. Now through our society discussions, our journals filled with communications containing all the marks of finish and elaboration give us about all that is well done in our profession. The best evidence is that it has been scarce a decade since many troubles to which women are subject, and for which now operative procedure offers relief and cure were regarded by eminent men of the profession as mythical. The enlightenment of the general practitioner, the increase in his diagnostic ability and the improved skill and methods of the specialist have rendered our phenomenal advances possible. No longer overborne by empiricism we allow the fixing of no limit to our improvement and discoveries. New views and methods will be continuously evolved to take the place of those which have proven fallacious. A courageous, almost audacious spirit of inquiry is doing the work. No one man or clique of men can come to us with their little discovery or their "my method" and say to us, "It is science—it is truth—it is faultless." We want to make some inquiry for ourselves. They must have the support of a resistless logic before we will grant their claim—they must bear the signet of truth as established by an unbroken line of successful use. There will continue to arise many moot-questions, both in specialism and in general practice,—to the adjustment of these there will be brought to bear the collective experience and the attested results of scientific research. There are some advantages the specialist has over the general practitioner. The general practitioner cannot to the same extent as the specialist control environment and sanitary conditions.

Neither the specialist, the general surgeon nor the general practitioner need attempt to arrogate to themselves all the honors. The honors are of easy distribution—they go to those who do successfully the work which lies within the legitimate limits of their departments. That general practitioner possesses the finest touches of the skilled specialist who early discovers and promptly deals with troubles needing operative interference, who through close study and observation has a clinical knowledge of suppurative forms of pelvic and other diseases. There is the best of literature on all subjects coming within the scope of his field.

The educated, conscientious and zealous workers of the profession will most heartily endorse the statement of Dr. Thomas M. Dolan that, "Those who are engaged in general practice have no reason to complain of the growth of gynæcological specialism which has followed on the line of progress and of evolution, for the general practitioner and specialist have still their *rôles* and are mutually interested in the development of the study of the diseases of women; nay more, I would assert that by linking themselves with such societies as our Gynecological, and by digesting the experiences which the leaders in gynecological practice so readily place at their disposal, general practitioners can thereby better qualify themselves for that position which, if I read rightly the signs of the times, they are likely to hold in the

future. It appears almost a certainty, that the differentiation in the ranks of the profession will be of such a nature that we will have two orders: first, a family physician or medical attendant, who will have the general care of the public; and secondly, that we shall have behind them an order who devote themselves exclusively to the study of a single part or parts of the body. It is a growing opinion that the specialist should for some years be a general practitioner, and that then by predilection for some individual organ or part of the body, he should take up that as his specialty. The field of medicine, and especially gynecological medicine, is so vast that it is only permitted to general practitioners to have sufficient knowledge to treat the ordinary diseases of womankind; and at the same time he should be able to accurately diagnose those conditions for the relief of which he should seek the aid of those who have taken up the speciality. What is wanted by the general practitioner is guidance and instruction in the diagnosis of obscure conditions. He is willing to learn, to keep pace with the times; and it is important that he should familiarize himself with the symptoms of myoma, multi-nodular fibroma, ectopic pregnancy, salpingitis, suppurating forms of tubal disease and the numerous accidents incident to parturition—he should possess a knowledge of the retrograde changes incident to the growth of hard tumors and the retrograde changes and accidents incident to cystoform growths. It must be remembered that in many cases time is of the greatest moment, and an early diagnosis means a difference between life and death. Early operation is or should be, a gynecological maxim."

There should be no antagonism between the specialist and the general practitioner, the one ought to be able to cope with the ordinary run of practice,—because specialists themselves have been so liberal in instructing, through our society meetings, elaborate, scholarly papers, textbooks and free clinics,—opening our eyes, and making their knowledge the common heritage of medicine. But our work must stop and have its limits, we must in cases of doubt, in cases abstruse, in cases recognizing special operative measures, invite the aid of the specialists, aid which is always readily given, and aid which we should all the more readily invoke because they are not our competitors, as they have given us the wider field. The field of general practice, so far as the diseases of women are concerned, leaves to the general practitioner an enormous scope of work almost sufficient to satisfy any ordinary ambition, and if he is sufficiently qualified to faithfully, judiciously and scientifically carry out the treatment of the general ailments of women with minor surgery, he may congratulate himself that in some measure he is contributing to the advance of gynecology—and to the happiness of that sex to which our study is devoted. If in general practice we are consulted about a case, and we cannot diagnose it accurately, it is criminal to carry the patient on for weeks or months without seeking other advice. The grave fact that it is human life we are dealing with should drive away every selfish consideration, every prejudice, personal and impersonal, and urge the use of our best wisdom, all the lessons of our study and experience and the summoning to our aid that of others. From the stand-point from which we have considered our subject we cannot escape the conclusion that specialists should be for some years general practitioners. That though each works in his own sphere they are working to a common end, the building up of the science, the perfecting of the art of relieving suffering and preserving human life. That there exists no grounds for narrow prejudices nor antagonisms, one is the servant of the other,—both of humanity. That our

correction of errors, our advance in the exactness of knowledge, is largely dependent upon the most hearty of co-operative effort; and that the general practitioner should be prompt to call to his aid the specialist in all cases which medicine cannot benefit and for which good surgery is the only remedy.

TREATMENT OF RABIES BY AN INTRAVENOUS MODIFICATION OF PASTEUR'S METHOD.

Under this heading was recorded, in the *British Medical Journal* of April 30th, an account of Professor Murri, of Bologna, which, while being treated with Pasteur's method, developed all the symptoms of paralytic rabies. These all cleared up when intravenous instead of subcutaneous injections were made. Dr. Bordoni-Uffreduzzi takes exception to the interpretation put by the original reporters on the above case, and suggests that the rapid recovery after the intravenous injections might very possibly have occurred without any treatment. To emphasize his remarks he reports a case which came under his own observation in which a patient, bitten by a rabid dog and treated by the Pasteur method, suddenly towards the end of the treatment developed symptoms of advancing paralytic rabies. In this case the patient recovered perfectly though the only treatment adopted was the use of a mild laxative and a good diet. Dr. Bordoni-Uffreduzzi also refers to two "exactly similar cases" recorded by him some time ago, in which like simple measures were effective. These remarks have led to a rather sharp rejoinder by Dr. Novi, one of the writers attacked, in which he claims that the "two exactly similar cases" were by no means proved to be suffering from true rabies at all, as they presented only the subjective symptoms so common in people who may have been bitten by suspected but not rabid dogs. He also points out that the entire records of the Institut Pasteur contain no instance like that just narrated by Dr. Bordoni-Uffreduzzi. Thirdly, he maintains the complete justice of his deductions in favor of the intravenous treatment, also challenging his opponent for not having included the above-mentioned case in his statistics published in June, 1891.—*Brit. Med. Jour.*

Clinical Lectures.

BUFFALO GENERAL HOSPITAL.—SURGICAL CLINIC.

PROF. ROSWELL PARK, A. M., M. D.

TREPHINING FOR EPILEPSY—TRAUMATIC ASCENDING NEURITIS AND POSSIBLE EMBOLISM OF BRACHIAL ARTERY.

The first patient this morning is an Italian boy, aged seven, whose history has not been written. The parents are ignorant and the child says little that can be understood. When quite a little child, he was struck on the forehead by a stone while fighting and suffered a depressed fracture. He now shows a scar on the forehead, there is an irregularity in the contour of the bone with evident depression and the child has well-marked epileptic fits occurring once in three or four weeks. I consider the case very favorable for operation now, whereas, if operation were delayed till the fits come on frequently, the prognosis would not be so good. The lesion is evidently of the frontal lobe of the brain and, as we believe the frontal lobes to be the seat of the reasoning processes and perhaps also of that unknown affair which we call imagination, we would not expect to notice motor phenomena while we would be apt to note loss of memory. We have not had an opportunity to test the memory but, for practical purposes as an indication for operation, it is enough to know that the child has epileptic seizures and has this depressed fracture. In any young person a depressed bone pressing upon the dura-mater, or on the brain itself, is a source of especial danger, not always attended with bad results, but like a weak bridge which one may cross without falling through is always likely to cause a disaster.

On the boy's forehead you will observe a scar which I shall outline so far as possible in making my incision. It is always good practice even when the cosmetic effect is not essential to make a wound which is

as little disfiguring as may be, hence, if the patient has a scar in which the fresh incision can be made, it is better to follow it. There is, in such cases as this, another reason why it is better to make the incision in the line of the previously existing cranial scar, for epilepsy may be due merely to the irritation of the cicatrix.

Forty-eight hours previously to entering the clinic room, the boy's head has been shaved and covered with a sublimate dressing. This is now removed and the forehead shaved in order to remove the down and particles of epithelium and other debris, for the razor is a dermal curette as well as an instrument for removing hair. The field of operation is scrubbed with soap and water and then with a potassium permanganate solution, followed by a solution of oxalic acid to remove the discoloration. The periosteum is exposed by curved incision through the overlying tissues and opened by a crucial incision. The deeper portions of the wound I find quite dark, probably stained by particles of dirt or coal-dust incorporated in the flesh at the time of the original injury. I have already told you in the didactic lectures that in young children, there is but one table of the skull unless the frontal sinus happens to be unusually well developed, when the bone in the supraorbital regions is divided into two portions. In this case there is more than the ordinary amount of venous oozing from the trephine wound. There is only one safe rule to follow in the use of the trephine and that is to set aside all generalizations as to the thickness of the skull in persons of different ages and to proceed as if you knew the bone were very thin. To my surprise, I find quite a well marked division of the bone into tables. I will pass around the button of bone which I have removed so that you may see the irregularity of its inner surface. As I do not wish to leave any sharp points of bone to excite fresh irritation, I trim off the margins of the trephine-opening with forceps and then with the bone chisel. The inner margin of the opening is over the longitudinal sinus. I am searching with the probe for abnormal adhesions between the dura and the bone and I must not mistake the natural connection between the dura and skull at this point for an inflammatory process. There seems to be no indication for further interference within the skull. As it is quite likely that some of the foreign material and the cicatrical tissue in the old scalp wound have been irritating, I dissect it all out. The periosteum is closed with fine cat-gut and the external wound with buried cat-gut sutures which have the advantage of leaving no cross marks to show in the scar.

A week ago a lad eighteen years old fell down four stories in a dummy elevator. One shoulder was badly bruised and there was soreness in the pectoral region. He suffered a concussion of the brain but was able to move his arm in almost all directions. We found that sensation was preserved all along the arm, that there was freedom of motion at the shoulder, that the hand could be placed on the other shoulder with the elbow touching the chest, and, in short, by the customary methods of examination, we ascertained that there was no fracture nor dislocation. The boy, however, had been badly bruised and shaken up and was quite ill and, more recently, other symptoms have developed which make his case really serious. The left arm is now almost completely paralyzed. This was not the case on the first or second days after the injury but has been of more recent development. I scratch the skin of the fore-arm quite vigorously with a pin, the patient gives no sign of sensation but sensation begins as I get up toward the shoulder. This test must be made not only along one aspect of the limb but on all sides for as we have three principal nerve-trunks supplying the hand and fore-arm, namely, the median,

the ulnar, and the radial which is a continuation of the musculo-spiral nerve. The wide-spread insensibility which you have seen demonstrated indicates that all branches of the plexus going down to this part are involved, whatever may be the explanation of this injury. There is absolute paralysis of the fingers, hand and wrist. The patient can move his shoulder slightly and he can turn over although he could not do so yesterday.

What is the condition here? There is no question but that at the time of the fall, the patient sustained a severe contusion of the shoulder and especially of the deltoid muscle which acted as a sort of cushion. There was a fear that he might have had a fracture of one or two ribs on this side but I have not been able to get any crepitus nor other sign of such an injury. When he takes a long breath, he has no more pain than would follow from a contusion of the soft parts. Sensation and motor power were excellent for the first forty-eight hours and were then gradually lost. This means, of course, trouble with the nerves. Is the lesion in the brain, in the spinal cord, in the roots of the nerves or in the brachial plexus? We can exclude brain injury for in all probability its worst manifestations would have been the earliest, there is no hemiplegia nor papillary disturbances nor any symptoms of interference with speech, any of the special senses or thought. Hæmorrhage into the spinal cord may cause the development of a gradual paralysis but in this case the paralysis is not extensive enough to be explained in that way. We can scarcely imagine an amount of compression which should affect the arm with so marked paralysis and not involve parts supplied by nerves coming off from the cord lower down, at least on the same side. By the localization of the paralysis in the arm, we are brought to the diagnosis of trouble in the nerves after they have left the spinal cord, the case is one, therefore, of peripheral lesion. I have already shown you, this term, cases of injury to the deltoid muscle with involvement of the circumflex nerve and subsequent inflammation or degeneration, producing paralysis, and have told you that this paralysis may be permanent. Sometimes, also a similar paralysis is caused by the pressure of the head of the humerus on the nerves during dislocation. But there was no dislocation when the patient entered the hospital and if he had a dislocation at the moment of injury it was immediately reduced without being recognized. We must account for the trouble on the theory of a peripheral neuritis of an ascending form. The circumflex nerve was probably the first one to become involved and the inflammation has probably spread to the other branches of the brachial plexus.

There is another important feature of of the case. As I press my finger over the point where his left radial pulse should be felt, I get a very slight pulsation. Now it is possible by pressing the finger against any hard surface to feel a pulse-beat in the finger itself. The determination as to whether I feel my own or the patient's pulse-beat must be made by feeling his other radial artery and noting whether the beat is synchronous or not. I find to-day, what I did not find yesterday, that the pulsation in the left radial in his own. Yesterday I could not detect any radial pulse in his left wrist. Inflammation of the brachial plexus alone could hardly account for this circulatory phenomenon, there must be some interference in the course of the artery. It is impossible to imagine an injury such as this patient has undergone without a certain amount of damage done to the blood-vessels in the axilla. For example, there may have been a thrombus in the axillary vein pressing on the artery or there may have been an injury to the arterial wall or an embolism of the artery. If there is an embolus occluding the vessel, it could scarcely have come

from the heart for the patient had previously been healthy. But there may have been some injury to the artery in the beginning, a thrombosis, and in the course of forty-eight hours a little particle may have become dislodged and carried down into the radial artery so as to shut off its pulsation. If this were to occur in a person where sensations were normal, he would become conscious of a sharp pain in the arm but on account of the anæsthesia in this case, there may have been an embolism of the radial ariery without the patient noticing any change. Again, there may have been a hæmatoma pressing upon both the vessels and the nerves but within the week which has elapsed since the injury, we would expect a perceptible swelling in the axilla and a discoloration of the skin to appear, neither of which signs are present here. The pulse might be shut off by pressure inside the thorax but auscultation and percussion reveal no interference such as effusion into the pleural cavity or consolidation of lung and there is no reason to believe that there is such an internal lesion. The interference with the function of the brachial plexus must of course, be due to trouble outside the thorax, that affecting the blood-vessels might be either inside or outside. The case is somewhat obscure but I believe we have to deal with an ascending neuritis and a partial occlusion of the axillary, brachial or radial artery either by pressure in the axilla or by an embolus lodged farther down.

I am applying blisters over the course of the brachial plexus with the idea of producing counter-irritation for the somewhat hypothetical condition of neuritis. After a time, if recovery does not occur, we must use both galvanic and faradic electricity, the former to maintain the nutrition of the nerves, the latter to keep the muscles in a proper condition and to prevent their atrophy from lack of use. Although the case is a surgical one, I see no indication for operating at present.

Society Reports.

ALLEGHENY COUNTY MEDICAL SOCIETY.

Scientific Meeting, August 16, 1892.

J. M. Batten, M. D., President *pro tem*, in the Chair:

Dr. J. J. Buchanan reported a case of bone grafting as follows:

I wish to show a case to-night which illustrates the subject of bone grafting in two of its aspects. This boy 11 years old, came to this country a year ago last December. Previous to that time he had been perfectly healthy. Before he came on ship board he is said to have struck his foot or the lower part of his leg and received a very trifling injury. After arriving on the ship he was taken with a high fever and great pain in the leg from the ankle to the knee. Expectant treatment was adopted, and when he arrived in Pittsburgh I was called to see him and found the limb swollen and filled with bloody pus. I made an incision the first evening and liberated an immense discharge of bloody matter, and found the bone affected. I had him removed to Mercy Hospital, where I etherized him and made a long incision down over the inner surface of the tibia and found the bone had been the subject evidently of acute osteomyelitis. The entire lower three-fourths of the shaft of the bone was destroyed. I extended my incision from a little below the junction of the upper with the second fourth of the bone down to the ankle joint and removed the lower three fourths of the shaft. The loss of bone was complete. I do not think there was a particle of periosteum left. The shaft of the bone was preserved, and I think it is intended to be an heirloom of the family, but I neglected to have it brought here this evening. The limb was so useless, having lost threefourths of the tibia and the corresponding part of the ankle joint, that that I proposed amputation to the family but they rejected it, and I was very glad to be able to try to graft some bone to take the place of this that had been lost. I disinfected the cavity as thoroughly as I could and packed it with iodoform gauze.

The constitutional trouble disappeared at once. I put the limb in plaster paris and in a few days removed the packing and found healthy granulations springing up throughout the cavity. I then repacked it, and on the sixth or seventh day secured two puppy dogs, chloroformed them to death and removed the long bones. From the neighborhood of the epiphyses, with rongeur forceps I took out pieces about the size of a grain of wheat and planted about fifty of them, along this gutter, just as a person would sod a ditch placing the periosteum next the granulations. I then put on the dressing, with impervious tissue next the grafts, and did not disturb it for four or five days. When the dressing was removed it was found that nearly all the grafts had taken. They could not be pulled off with forceps without considerable force. The granulations soon covered them up and I applied a lot about a week later, and the boy went on to recovery and has a very useful leg. This was more than a year ago. I should say that before the boy was out of bed, he commenced to have abscesses on different parts of the body. The first one I believe was over the lower end of the fibula on the other leg and the next over the lower end of the ulna. He then got abscesses in the soft parts of his legs and arms. These abscesses continued for about a year but did not confine him to the house. About three weeks ago I was sent for to see him. He had severe pain in the region of the head of his tibia on the same side as the original trouble, and from the considerable amount of fever, the absence of any cause for the symptoms, and also the existence of tenderness over the head of the tibia, I concluded he had a bone abscess. I had him removed to the hospital, where I cut down on the head of the tibia and chiseled open the bone, and found the entire head of the tibia filled with pus.

I scraped this cavity out as thoroughly as possible. I made a liberal opening in the bone, and the entire inside of the head of the tibia was removed. After disinfecting it I packed it with decalcified bone chips by Senn's method, putting in iodoform powder. The result was that there was no discharge from the head of this tibia whatever. The operation was done about eighteen days ago, and by the old method of treating these cases, we would have had suppuration for a considerable period, but this boy since that time has never had a particle of trouble and no discharge, except lately a certain amount from the superficial granulations. At the time, just as the abscess was opened, I had a culture made of the pus and I will show it here; it proved to be *staphyloccocus pyogenes aureus*. It is a question what caused this abscess in the head of the tibia; whether this was of the same nature as the subcutaneous abscesses that he had at various times during the last year, or whether these germs had laid dormant in the head of that bone from the time of the first operation. Now, whether this abscess was due to those organisms which had set up the original trouble or whether it was mere accident that he should get this new trouble in the head of that tibia near the old trouble, I am unable to determine. I rather think that the germs were there during the whole year. This case represents the two methods of bone-grafting, one by the application of living bone direct from an animal and the other by the use of decalcified bone. I expected to have another case to-night, but unfortunately the boy went out of the hospital this morning without my knowledge. In that case also the decalcified bone made a perfect result. The boy was only dressed two or three times during his stay in the hospital and the case was without any trouble whatever. Now with regard to the choice of these two methods of bone grafting, I should say that if we have a cavity in the bone, that we ought to take the decalcified bone to fill it. If we have a gap in the bone from which we must take a new start, then we should take the bone with its periosteum in small fragments, from an animal, preferably from a young one. Now the reason these bones are cut up in very fine pieces will of course suggest itself, that in case any of these failed to unite, it could be removed without any trouble. Fortunately in this case they almost all took hold, although there were seventy-five of them; but I believe if we had put in large pieces, portions of some of them would have failed to unite, and the removal of these portions would probably have destroyed the usefulness of what was left behind. For that reason I would always prefer putting in small pieces. I expected to show another case illustrating the grafting of living bone,

where three and one-half inches of the lower end of the tibia was removed and one and one-half inch of the fibula. I grafted this case with the bones of a young puppy. In it I put fifty to seventy grafts and that case also I considered a case of amputation; but after the man's refusal to be amputated, I agreed to try and repair his bone and the result was very good. When I last saw him, a short time ago in the Hospital, he was able to walk on his limb, but the bone was not entirely firm. For a week or ten days after the injury the head of the astragalus was to be seen in the wound.

DR. THOMAS: Many of these cases of diseased bone are troubled with wonderfully,and even where there is not a great deal of lost bone. I sometimes think we graft without periosteum. I cannot account for it, but we get new bone where we think the periosteum has all been destroyed. About one and one-half years ago, a case of complicated fracture of the ankle-joint came to the South Side Hospital. The lower section of the tibia had been broken off diagonally about two and and-half inches above the joint. The tibia had been broken off and the lower end of the fibula. A short piece of the lower fragment was imbedded in the fibula, and it was impossible to dislodge it from that position without incising all around it, and taking it out with the forceps. In that case I wanted to amputate the limb, but the patient demurred. No pus appeared in the wound. This bone was regenerated, and the man to-day drives a beer-wagon. In that case I thought, and think still, that the bone was regenerated without periosteum. Now in this case, if the entire tibia was removed, as the doctor says, we have a regeneration of bone, we have the outlines of the tibia, and we have in a manner cured, but we have not got a complete cure in this case as yet. It is a question with me if it were not better if that limb had been amputated, than as it is. The probabilities are it will never get well, and the probabilities are amputation will have to be done yet. I do think we sometimes carry our conservative surgery too far. I hope I am mistaken in this case; but my opinion is, it would have been better if that limb had been amputated. The patient would have been saved many hours of being bed-ridden and many hours of pain, and, at present, would have been able to walk a great deal better than he does.

DR. DUFF: From what I have seen, I have not practiced bone-grafting myself, but I have seen and read, and I think there is a very bright future before us in bone-grafting, and yet we want to bear in mind, as Dr. Thomas says, that bone has very great recuperative power. I had a young lady come to my office this morning who is not over 21 years of age. I have only seen her occasionally in the past few years. In the fall of 1876 she took scarlet fever. She suffered a relapse, and one abscess after another formed. I removed eighteen pieces of bone from her humerus and from the spinal processes. I cannot state the exact number, two or three were removed from the femur. This condition ran on for a long time, when it became evident the tibia would have to be removed, and in the presence of Drs. Sterling, O'Connor and my father, I removed the shaft of the tibia, removing all of the bone, which I still have in my possession at my office; all of the shaft of the bone, and, I thought at the time, all of the periosteum. I advised amputation at that time, but we thought we would await results. Within six months after that there was apparently a complete bony formation in the midst of the tibia. It was very much thicker than the tibia originally, but it was solid. She is a twin, and the two sisters resemble each other very much. She walks by the side of her twin sister to-day, and it is with difficulty you can tell which is the lame one. I have asked this lady two or three times to come before the society, but she is very modest, and I cannot prevail upon her. I shall be glad at some future time to show the bone which came from her. This case, with some others not so aggravated, leads me to believe the bone has greater recuperative power than we generaly attribute.

DR. BUCHANAN: Of course, if the periosteum of the case I have just shown remained, we need not lay any stress on the grafting of bone; but, as I stated, to the best of my knowledge, nothing of the periosteum was left. Now, of course, this is a matter which I cannot prove, even to myself; but to show that bone-grafts can grow without the aid of the original periosteum, I would refer to a case of Dr. Macewen, of Glasgow. The

shaft of the humerous was almost entirely gone, and it had been gone for more than a year. The arm was a perfect flail, but, by repeated graftings of bone, the humerus was replaced; the pieces were set into the gap made between the muscles by dissection; the only guide was the anatomical one of the positions of the muscles. Here several inches of the humerus was gained by bone-grafting, and in this case it is not necessary or not possible to give the original periosteum any credit for the result. Now, with regard to the comparison of this leg with an artificial one, I had hardly expected this criticism, I must say. I think this leg is a good deal better than any artificial limb I have ever seen.

Dr. E. G. Matson opened the discussion of the subject announced for the evening, entitled:

NEPHRITIS.

(*Abstract of the Paper.*)

The writer pointed out that each uriniferous tubule was a kidney complete in itself. In this fact may be found the explanation of the insidious character of some forms of disease of the organ when the morbid process fastens at first upon a part of the tubules leaving the others to continue the urinary function. The lesions are always found to have their primary seat in the cortex, that is to say, in the part of the kidney which performs the vital functions of excretion. It is a fair presumption, therefore, that the origin of nephritis is connected with the excretion itself. This evidently is true in nephritis from lead or phosphorus poisoning. It is possible that in every case the disease arises from the necessity of separating some substance from the blood for which the organ is unsuited, and which is injurious to its structure. This is easy to believe in cases which are intercurrent or sequelæ in infectious diseases. It is not conceivable that exposure to cold could directly affect the kidney more than other organs. It is probable that its well-known agency in this disease is connected with the production of substances which the kidney must deal with in greater quantities than it can bear. If the substances in the blood, with which the kidneys are concerned, were totally incompatible with health, it would be necessary to place the organ next the heart so that they could depurate all the arterial blood before it is distributed to the tissues. Their position on a branch, not large in comparison with the main current, shows that incomplete depuration of the blood is sufficient. It is not easy to understand the causal connection of hypertrophy of the heart with Bright's disease. Evidently it develops in response to a condition of the blood in which the substances to be removed by the kidneys tend constantly to exceed the proportions compatible with health. The hypertrophy of the heart is compensatory to the destruction of a part of the kidney just as much as in valvular disease. By this means the blood is driven at a higher pressure though the lessening intact part of the kidney, which in this way can act on great a part of the blood as in health. The morbid anatomy was discussed: it was pointed out that both interstitial and parenchymatous changes were found in all cases so that the classification into interstitial and parenchymatous nephritis, though convenient, is not strictly correct. Probably (after excluding waxy disease) the best division is into acute or chronic parenchymatous and interstitial nephritis. The division is justified by difference in morbid anatomy as well as clinical history. They are probably only varieties of one disease, and therefore there may be some cases of uncertain classification. The course, symptoms and diagnosis of these forms were detailed. Interstitial nephritis, the most insidious, presents the greatest difficulty. Albuminuria is but transient, dropsy usually absent, while the eye-ground is inaccessible to the majority of physicians. If there is hypertrophy of the heart without defect in its mechanism, arteriofibrosis so that the radial can be felt like a cord against the bone below the point where it is compressed by the finger; accentuation of the second sound of the heart over the aortic area, with *persistent* low specific gravity of the urine, that is with a *persistent* deficiency in the quantity of solids which it is the duty of the kidneys to excrete, diagnosis of interstitial nephritis is justified.

Since Bright's disease is often insidious the disturbances must be borne in mind which it may cause. Tendency to bronchitis, dyspnœa, neither due to heart disease, emphysema or asthma, repeated attacks of diarrhœa, or vomiting on slight provocation, are among those which should lead the practitioner to entertain the pos-

sibility of Bright's disease. As to uræmia, which is sometimes the first sign of the disease, it should be remembered that it may appear as headache, mental wandering, delusion, or even mania. Albuminuria is always a symptom of great importance. Probably all physicians are aware that albuminuria is not a pathognomonic sign of Bright's disease, but there are not a few who suppose tube-casts to be an inevitable sign. Practically, tube-casts and albuminuria go together; the same causes seem to produce both. From what has been said of interstitial nephritis, it is evident what caution must be observed in pronouncing a subject free from renal trouble after an examination of his urine. On the other hand if a faint cloud of albumen is found, what are we to say? Albuminuria is in the great majority of cases due to Bright's disease. To prove that is that not an outside cause should be found. Doubtless, albuminuria never exists without disorder of the kidneys. This disorder is generally secondary as cyanosis due to heart disease, or biliary intoxication. The disorder is probably functional and unimportant at times. Functional albuminuria is said to be not uncommon at about the age of puberty. The odds are heavy against the health of a grown man free from jaundice who has albuminuria.

Dr. Grube: I was pleased with the doctor's remarks, and, as I have given this subject a good deal of attention, have had a great deal of experience in making analyses. I am glad he has brought out several points and none more so than that both albumen and casts may be found in the urine, with at least no serious trouble in the kidneys, I have found both, and afterwards had the privilege of examining the kidneys. post-mortem, and could find no trouble there. Because we find a few casts, because we find a little albumen, we often come to the conclusion that the patient is suffering from Bright's disease, when that probably is the smallest factor in his trouble. Now on this point I want to tell my own method of searching for casts. I take low power, not more than one-half inch, a which gives a wide field. I put five or ten drops of urine on the slide without using a cover glass, and in that way if there is a single cast in ten drops it is possible to find it, A thing which must not be overlooked is that casts are so transparent that if you have not very low light they become entirely transparent, and you cannot see them at all. As long as the specific gravity is high enough and the amount in twenty-four hours is sufficient to show that the renal function is being performed the patient may live in comfort, if hygiene is attended to, and therefore we have less field for treatment and management, mainly a question of diet. Prof. Dixon is a great admirer of the skim-milk treatment; not that any thing it contains has a good effect, but it gives rest to the kidneys. You want to give a diseased kidney rest, and to do that minimize the diet by giving skim milk.

Dr. Shaw: I agree with the last speaker in referance tofinding casts with a low light. with a very strong light you cannot see them at all, but with almost no light they come in view very readily, when otherwise they might be overlooked.

Dr. Shaw then referred to two cases met in life insurance examinations, in which slight digestive disturbances alone indicated ill health. The urine, however, showed a faint cloud of albumen and contained tube casts. Both these men were considered healthy by their physicians, yet both were dead in the course of a few months.

Dr. Batten: This was a very interesting subject the doctor read upon this evening, and I am sorry he did not go into it a little farther. Now there are a great many cases that come under my observation that require very skillful treatment. I remember the first case that came under my observation several years ago when treatment was not so well understood as it is now, and I remember that I gave a very unfavorable prognosis, and I treated the case with compound jalap-powder and so on, and to my astonishment the patient got well. I had another interesting case of that sort that came under my observation in a man who who had an acute nephritis from sitting on the ground. It was in April. My treatment was hot baths and the compound powder over the bowels. The question of prognosis in these cases of chronic albuminuria I think is very important. For instance, a man may have only one kidney attacked with chronic-nephritis; if we only thought there was one kidney affected we could give a very favorable prognosis. Again, only a part of the kidney may be affected; in such a case the

prognosis would be favorable. In regard to the treatment of nephritis, we have an increased blood supply to the kidneys. We should prevent this increase of blood and endeavor by some means to dilate the vessels so that the blood can escape. Now to do this, it would be necessary to prescribe some drug that would prevent the heart's increased action, and in addition to that give a remedy that would dilate the vessels so that the blood could escape from the kidneys. For the first we have digitalis, and for the second we have extract of belladonna. With these drugs prescribed in a scientific manner and with the proper diet, I think the patient would be very greatly benefited.

DR. E. G. MATSON: The last speaker thought a single kidney may be affected by Bright's disease. I have never seen the description of such a case. It is true that in autopsies one kidney is often found more extensively altered than its fellow.

DR. BATTEN: I have a case that I would like to bring before the society. A woman gave birth to her fourth child on Jan. 15th. On the 16th of the next month, after washing all day, she was taken with puerperal peritonitis. The question arises in my mind how did this contagion enter the system one month after the child was born? Dr. Batten also described a case of mammary abscess without abrasion of nipple.

DR. DUFF: As we see the subject to-day, I think that we ought to speak of these troubles under the heading of puerperal infection. If there was peritonitis in this case, which was puerperal, and it was the result of infection, it would come under the head of what is generally known as puerperal fever, unless we could determine that it was in her system for some time before. Prof. Hurst and others say with regard to the abscesses formed in the mamma that they can not occur unless there is an abraded surface on the nipple, but on the other hand it is asserted there can be abscess of the breast where there has been no abrasion or cracking of the nipple, and it is caused by the staphylococcus which has been introduced through the blood. In Dr. Batten's case germs may have been introduced through the blood. I believe I heard Dr. Murdoch several years ago, when the germ theory first came out, say there could not be a drop of pus in the body unless we had one of those little animals introduced there first. If it is not possible to have a drop of pus it is just as impossible to have puerperal peritonitis or infection without introduction from without or through the blood.

DR. BUCHANAN: I understood Dr. Batten to say that thirty days of the puerperium had elapsed before trouble commenced. I think this woman had a trouble which was not puerperal. She had passed her puerperal period. If this woman had had any elevation of temperature, any infection of the tube with a production of pus in that tube, and at the end of thirty days had had a leaking or rupture, causing peritonitis, then it might be called puerperal fever, but if she had passed, as I understood, thirty normal days after labor, I think we would have to bring some other cause in to account for this peritonitis.

REPORT OF TWO CASES OF STONE IN THE GENITO-URINARY PASSAGES, BY DR. THOMAS.

The first case was a case of long standing. The patient complained of urinary trouble for three or four years. It was suspected that he had a calculus in his bladder. Yet his bladder had been examined by some very capable gentlemen several times, and they never were able to detect a calculus in his bladder. I examined him myself three or four times, but I could never detect anything in the bladder. In addition to trouble in the bladder he also complained of his right side, and finally the trouble in his right side appeared to annoy him more than anything else. Not being able to discover anything in the bladder I suspected that it existed in the right kidney. At the urgent solicitation of the patient I cut down upon the right kidney about the end of June. and manipulated it thoroughly, but failed to discover any evidence of stone in the kidney. The wound healed finely without any pus in three or four weeks. The patient complained afterwards of trouble in his urinary apparatus. Dr. Martin sounded him with a searcher and discovered a stone in the bladder, and result was what I show you here. (The extracted stone was here shown.) Now the question is whether the manipulation dislodged it from the pelvis of the kidney, or whether the

calculus had not been in the bladder all this time. Dr. Banks, of New York, discovered a calculus in the bladder three or four times, though the patient had been examined by very able men in New York City, who had failed to discover it, and he claims if you cannot discover one the better plan is to put the patient in bed, and very often you can discover a stone where you could not without this preparatory treatment. The peculiarity of this case, as well as the case following it, is that the patient should go around so long without the discovery of so large a stone. This stone weighs nineteen drachms plus.

The second case was sent to the South Side Hospital. He had been suffering for three years with urinary troubles, and in the mean time he had acquired a gonorrhœa. This patient was treated by six or seven physicians in this city. He had had no control of the sphincter for a long time; about every half minute he would eject what urine was in the bladder. I suspected from the statement that he made that I would find a very tight stricture. I first passed in the searcher and found a stone. I think it was removed July 7th. This is an oxalic acid calculus. The patient had been suffering for fifteen years, and it was never discovered untill he came to the city. I had my reason for performing lithotomy instead of lithotapaxy; the bladder was inflamed and contracted, and I thought by this operation perfect drainage would be secured, and the bladder get a long rest, and in that way recover. The first patient left the hospital in twenty-one days, while the second one expects to leave to-morrow. Both have made a wonderful recovery. The second patient's temperature went up to 106 on the second day, then it gradually went down, and in four days was about normal, and remained so since. These cases went on for a long time; if they had been discovered earlier the calculi might have been removed without much trouble. This smaller oue weighs six drachms plus. I think the first patient had been examined by Drs. Wood and Martin. I could use the cystoscope and pass it all around his bladder, yet I failed to discover anything in the bladder with that, or by the use of a searcher, and it was strange to me if it was in the bladder that it could not be found.

Abstracts.

DISCUSSION ON CHOLERA.

THE ETIOLOGY OF CHOLERA.*

DR. CHAS. SETH EVANS:

The cholera germ has been found in all cases of cholera which have been examined for it, but this germ, which, by the way, is a bacillus, has never been found to occur in any other disease. Now, the act of finding these bacilli in cholera may be a very easy or a very difficult thing to do, indeed. If the patient is still alive we look to the stools, but to find them in the stools is not as easy as some might imagine. Especially is this the case in the latter stages when the patient is getting well. In the second stage it is comparatively easy, but in the first and third stages it is not. To examine for the germ, part of the stool is placed on the cover-glass, especially one of the white particles which float in the stool, but not infrequently even then the germ is not discovered. At other times we find in the rice-water stool a great number of the germs.

The method of Schottelius is rather an aid in the detection of the germ. This method recognizes the rapid development of the cholera germ in bouillon and the way it is wont, in its multiplication, to kill off any saprophytes which may be present. Thus, in a day or a few hours we will have almost a pure culture of the cholera germ. By this methed one is able in every case of cholera to detect the germ. Of course, in this method of Schottelius it is necessary to take out one of these white floating bodies. Then, of course, the germ may be put on the cover-glass and there stained. Now, what are the properties by which this germ may be separated? In the first place, it is a bacillus with square ends, about one and one-half micro-millimetres in length, and one-sixth of the same in diameter. The bacillus is, moreover, not straight. The younger bacilli are sometimes straight, but they become crooked as they grow older. We find them, the younger ones, straight, and others curved, and still others may be in the form of a half circle. It is this curvature of the bacilli which has given to it its name, the the comma. When these bacilli occur in

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pairs, their curvatures are almost invariably in opposite directions, so that we get more or less of an 'S' shape. Now, in those cases where the bacilla come out in a chain and form a spirillum, we find that this is continued, its curvative being not only in one plane, but in all three planes, and we have a cork-screw arrangement; and this was thought for a time to be typical, but by photographing, and the use of the higher powers, we find that it is made up of bacilli; and we find that this cork-screw form develops especially well when the bacillus is growing under unfavorable circumstances, that is, when it is losing substance and becoming exhausted. The comma bacillus possesses the power of independent motion. In a hanging drop preparation they swarm as insects in the air, like gnats.

As to the formation of spores: Although it is a subject as yet not settled, we may say that there is nothing which represents the permanent form. There have been forms created which were supposed to be spores, but the fact is they are not more resistant than the bacilli themselves.

As to the cultures, that is the means by which we recognize them from other bacilli. They are peculiar. If one pours gelatin plates after the usual manner, then after the usual time one sees the culture full of light white spots, each of which represents a colony grown in the gelatin, and, as it grows, it tends toward the surface, and then, after reaching the surface, fluidifies the gelatin.

It is a very marked peculiarity of the colony that it does not tend to fluidify the gelatin in a large flat surface, but sinks down, until the gelatin soon looks more or less honeycombed in spots. We find, under the microscope, the outline of the colony rough, and it seems to affect the whole upper surface of the colony, thus giving it a granular appearance, and at the same time wavy, and this waviness becomes more and more marked as it grows. It looks indeed, as if the colony were sprinkled over with fine glass or diamond powder. The culture in the gelatin tube is very characteristic. The growth first occurs all along the track made by wire, but especially in the upper parts; so occurring there it tends to form a funnel-shaped arrangement, and gives us a deep, comparatively narrow, funnel, and at the same time the gelatin fluidifies so that the upper portion of this funnel is frequently filled with air, and indeed, not infrequently we get a bubble of air in the upper portion. The older cultures of the germ on the gelatin often show the involution forms.

After about eight weeks a cholera germ will die out in its own culture. Thus, a culture on gelatin will keep hardly eight weeks. A culture on agar-agar will, perhaps, keep three-fourths of a year, under favorable circumstances. The germ also grows on potato, and as I have already said to you, in milk, and in sterilized water. Experiments have shown that it is one of the most tender of germs. A temperature of 122° F. stops all growth, as does also a temperature of 59° F. It grows best between 86° F. and 106° F., about the temperature of the body. A temperature of over 122° F. will kill the germ in every instance, while boiling, 212° F., is a very safe method of destroying it; but a temperature entirely freezing the germ and stopping the growth does not kill it. Besides heat and cold, it is absolutely dependent on moisture for its life. Articles which have become so dry that they are dusty, do not contain germs capable of production. Again, it is a germ which is very easily destroyed by germs of decomposition. When put into fluid from an ordinary privy vault it dies out in twenty-four hours, and in fluid taken from the sewers of Berlin, in the course of a few days. It is, moreover, tolerably dependent upon the amount of oxygen and the chemical reaction of the culture medium. Thus, acids speedily destroy it. The cholera-bacillus will grow and multiply in sterilized water, and also what is even more important, in milk, without changing its appearance or taste; but unsterilized milk is not a good culture, probably due to the presence of the other germs contained in milk. It is reported that Koch discovered a great number of these germs in an Indian tank, in which case the cholera-germs had probably won the fight over the germs of decomposition, and then grew and multiplied.

It remains a fact that these cholera-germs are only to be found in the intestinal tract of the body; not in the organs, not in the muscles, not in the blood, but only in the intestinal tract. Now, the question arises as to how the germs get into the body. As Dr. Freemen will tell you they can get into the body by breathing, and I wish

simply to refer to the fact that only dry things will become dusty, and so it is that only dry germs will get into the body by breathing, and drying these germs will kill them. So this would do away with Pettenkofer's theory that we get it through the lungs into the body, and this leaves the most probable way to be, by what we eat and drink. It is a qnestion of how the germ gets from the intestinal tract of one man into that of another. This may be accomplished either directly or indirectly by the food or clothing, or by washing.

Now, just one word as to immunity. I believe it is conceded that one attack secures immunity, but that this immunity would last from one epidemic to another is highly improbable.

THE PATHOLOGY OF CHOLERA.*

DR. LEONARD FREEMAN: The germs of cholera are confined to the alimentary canal, and, like those of typhoid, almost entirely to the lower portion of the small intestine, because here the peristalsis is less, as is also the acidity of the bowel. The cholera spirillum is exceedingly sensitive to acids of all kinds, and particularly to hydrochloric acid, the normal acid of the stomach.

The pathological changes found after death are not at all so numerous nor great as one would be led to expect from the severity of the disease, and they are practically confined to the alimentary canal, particularly the lower ileum. The bowel shows the effects of inflammation, especially about the solitary follicles and Peyer's patches, the germs having worked their way into the follicles and tubular glands and even between the basement membrane and epithelium, pushing off the latter. The lumen of the bowel is filled with a watery fluid, which resembles gruel or rice-water, and is clouded by growths of micro-organisms, cast-off epithelium, mucus, and *débris* of various kinds. Sometimes the fluid contains an almost pure culture of cholera germs.

The spirilli themselves are confined to the intestinal tract. The changes in other parts of the body are similar to those occurring in other diseases, except, from its deprivation of its fluid elements, etc., the blood is very thick and dark.

The proofs that the spirillum discovered by Koch is the cause of cholera are these: (1) It is found in every case of cholera; (2) it is found in no other disease. A third element should come in here—we should be able to inoculate the germ into animals and reproduce cholera; but, as animals do not naturally have cholera, and we do not care to experiment on man, this link in the chain of proof is worthless. But if a certain germ is always present in a disease, and is confined to that disease, the inference is very strong, reasoning from its presence alone and from what we know of the causation of other diseases, that it is the cause of the pathological condition in question. The fact being admitted, as it almost universally is, that the germ is always present in cholera, if it is not the cause, then it is simply an accompaniment of the disease. If this be the case, it must develop in numbers from some normal inhabitant of the intestinal tract, or else be produced by the transformation of some such inhabitant into the cholera-spirillum. But the careful examination of hundreds of normal stools has demonstrated the fact that no such bacillus inhabits the intestines, and we know, from long observation, that one form of micro-organisms never changes into another form. In a word, the proof for the cholera-spirillum rests on the same foundation as that for typhoid.

A great many people, who should know better, seem to think that the germs of cholera, as well as those of other diseases, can always be seen at once with the microscope alone. This is often impossible, and it may take considerable search with the plate-method before they are finally discovered.

I was speaking the other day with a prominent pathologist in one of our larger colleges. He did not believe in Koch's spirillum. He had made a great many autopsies in Calcutta, as well as examined a large number of stools, and not in one instance did he succeed in finding the cholera-spirillum. He claimed that Koch waited too long before making his examination, and thus allowing the spirillum to grow after death. He did not state, however, whether these investigations were made by the plate-method or by the miscroscope alone. Cunningham, in a recent article, says he found ten different kinds of comma-bacilli in six-

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teen cases of cholera, and that Koch's bacillus was not the most numerous of the lot. He is also an unbeliever in Koch's theories; but these theories rest on too firm a foundation to be overthrown by isolated evidence, without that evidence rests on a very firm foundation indeed.

The germ is seldom found in the vomited matter, and then only when regurgitated from the intestinal canal. The bacilli cannot live long in the stools, and after four days, it is claimed, there is no danger of infection from a cholera-stool under ordinary circumstances. The reason is that other germs,—those of decomposition, for instance—soon kill out the germs of cholera. Experiments in this line are, however, to some extent artificial. Cholera-spirilli have been discovered in the foulest kind of water, teeming with all sorts of bacteria.

The cholera germ grows well only in milk which does not contain other germs. In fresh milk it grows quite rapidly for the first few hours, according to Kitasato, and then, as the milk sours, the growth ceases. Hence fresh milk is more dangerous than sour milk, and the longer you keep it the less dangerous it becomes. This does not argue, however, that milk should not be sterilized—sterilization of milk by heat is still our means of protection against cholera, as well as other diseases; but the milk must be sterile.

One of the most important disinfectants, and one to which sufficient attention is not paid, is sunlight, not only in cholera but in various other diseases. Many of the experiments which have been made with various pathogenic germs suspended in water will have to be gone over again, because the effects of sunlight have not been considered.

As is well known, cholera germs cannot stand dryness, even for a short time. There is very little danger from such dry things as letters, dry clothing, etc. Kitasato has made some experiments lately, however, which seem to show that under certain conditions the cholera spirilli may be dried without destroying their virulence.

The germs of cholera find entrance to the system through the mouth and stomach. It is possible that under certain conditions they may be breathed in; but as dryness kills them at once, and they cannot rise from a moist surface, it is difficult to see how they can exist in the atmosphere.

These cholera germs are so sensitive to the attacks of other germs that it seems remarkable that they can be the cause of such widespread and tenacious epidemics of disease. It is so sensitive that, theoretically, we need not be afraid of decomposing matter of any kind after a few days have elapsed; but, practically, it is better to clean up all the filth, because in filth is found the cause of the disease at first. The spirillum will live for months, or even years, but this is only in a pure culture. And pure cultures must be rare in nature.

Acids have a very decided effect on the germs of cholera. Even a 0.2 per cent. solution of hydrochloric acid will kill them, which is true of few other microorganisms. As weak a solution of carbolic acid as 0.5 per cent. makes a good disinfectant, killing them in a few moments. Carbolic acid is better than corrosive sublimate, because it acts better in the presence of albumen.

Experiments on man have not been very numerous, as one would naturally suppose. A Frenchman once made some pills from a cholera stool and swallowed them; he did not get cholera. But all individuals who swallow cholera germs do not get the disease. Hence the Frenchman proved nothing but his own foolishness. In the catching of cholera a thousand and one factors come in. Some of them we know, and many we do not know. There is the condition of the stomach, the virulence of the particular culture of germs, the age, general condition, climate, temperature, meteorological factors, etc.

A man in Koch's laboratory is supposed to have contracted cholera from a culture of the germs, there being no other cases of cholera anywhere near Berlin at the time. He had all the typical symptoms, and his stools contained numerous comma bacilli. During the course in which I participated in Koch's laboratory a careless student knocked a culture of cholera germs from a table, breaking the containing flask and spilling the cultures over a number of us who were standing about. We spent the rest of the week disinfecting. Klein swallowed some fluid containing Koch's comma bacilli. No evil effects followed; but, again, this proves absolutely nothing.

One reason why animals do not get

cholera may be that peristalsis is so active that the germs pass through the alimentary canal too quickly. Another reason is the acidity of the stomach. If the peristalsis be corrected by injections of opium into the abdominal cavity, and the acidity of the stomach be neutralized by an alkali, the germs of cholera may be successfully inoculated in animals and a disease produced closely resembling that in man.

There have been a number of theories to account for cholera. The most important, perhaps, is Pettenkofer's. He admitted that the disease was due to a germ, but he claimed that the germ must first undergo an incubation in the ground before it could produce the poison which causes cholera—that the germ (x) + the ground (y) = the cholera poison (z). Pettenkofer is right this far, perhaps, in that it requires more than the germ alone to produce cholera; but the discovery of the spirillum by Koch, and its life-history, sufficiently does away with Pettenkofer's ideas.

Cunningham and others believe that cholera morbus is really Asiatic cholera under unfavorable conditions for its perfect expression, but that at times favorable conditions arise, and then an epidemic results.

Certain ptomaines, or tox-albumens, have been found in connection with cholera germs by Brieger, Pfeifer and others. Whether the symptoms of the disease are produced by these, or merely by the local action of the germ in connection with the removal of the watery elements from the blood, is not definitely decided. But, as the symptoms of many other diseases have been shown to be due to these poisonous products circulating throughout the body, one would naturally think that cholera was probably not an exception to the rule.

PERMANGANATE OF POTASSIUM IN PHOSPHORUS POISONING.

M. Bocar (*Bulletin Generale de Therapeutique*, April 25, 1892) recommends the use of potassium permanganate in phosphorus poisoning, in a 1 per cent. solution. In its presence phosphorus is converted into orthophosphoric acid, which is entirely harmless. Dogs poisoned by phosphorus and treated in this way have recovered. The permanganate of potassium exerts no harmful influence on the stomach.

THE CHEMISTRY OF CHOLERA.*

Dr. S. P. Kramer:

With the establishment of the etiological relation of the cholera bacillus, there presented itself the question as to how the germ produces the symptoms of the disease. As the pathologists have told us, there is no pathognomonic lesion, and so we can hardly say that the germ causes death by destruction of tissue. And so the inference was left that it produces a chemical substance, which, when absorbed, produces the toxic symptoms that go to make up the symptomatology of the disease. The investigation on this line began with the possible isolation of an alkaloid or ptomaine. The investigation in this direction, however, did not yield very profitable results. It was in 1890 that Brieger and Frankel obtained from bouillon cultures, by filtration through Pasteur filters, a substance which they called tox-albumen, which, injected into animals, produced symptoms almost typical of cholera. Shortly after the injection the animals became very quiet, refused food, and very soon became somnolent; the breathing became superficial and the temperature fell below normal; this was followed by death in from twelve to twenty-four hours. From this filtrate they obtained a percipitate with alcohol that had the same toxic properties, only in less marked degree. They found that, when the filtrate was heated to a temperature of 60° C. for a half hour, it had lost its toxicity. Kitasato confirmed these results in a similar investigation.

Within the past year Pfeifer has taken up the subject, and his experiments show that the poison is not so much a secretion of the germ as it is a substance which goes to make up the body of the bacillus itself. He obtained the same fatal results by subcutaneous injection of the germ, killed by thymol or other antiseptics. The animals died in from ten to twelve hours, showing the same symptoms as those described by Brieger and Frankel.

This tox-albumen, or bacteria-proteid, does not stand any great amount of heat for any time, and is very susceptible to chemical reagents.

One word in regard to the effect of the

* Cincinnati *Lancet Clinic.*

cholera bacillus upon the guinea-pig. If the bouillon culture is injected into a guinea-pig the animal dies in about twenty-four hours, with the symptoms mentioned before. The cholera disease cannot have developed in that time, but the animal is killed by the toxic chemical compound in the culture. This was a starting-point, and from this was adduced the presence of toxic albumens.

Now, it would, perhaps, be well to add what has been done as to immunity. Brieger, Kitasato and Wassermann devised a method of immunizing guinea-pigs in the following lines: They said that the germ so reacts on the cells that they produce a something antagonistic to the toxines produced by the germ—an antitoxine, for instance. They then said: We will grow this germ on a substance made from an organ rich in cells; and they took for this purpose the thymus gland of the calf, growing the germ in a bouillon made from these glands. After remaining in the incubator for three days the culture was filtered through a Pasteur filter, and then heated for fifteen minutes at a temperature of 65° C. in order to destroy the tox-albumens; the fluid was then used as an immunizing fluid, and injected into animals. The animals so treated with one cubic centimetre for a period of five to seven days were found to be perfectly immune to the disease. These experiments were performed four months, I think, before the publication, and at that time they were still immune. In their latest investigation they obtained the same results with the ordinary bouillon culture (without the thymus). So that it is probable that the cholera bacillus, both within the body and in artificial cultures, produces a toxic substance, which may be destroyed by heating to 65° C. for fifteen minutes, and an immunizing substance, which is more resistant. The two may thus be separated and the latter used in the treatment or prevention of the disease.

It certainly looks as though we have here an outlook for the future. These investigators found that the immunity began to show itself after the second day of treatment; so that if the treatment is not too dangerous in man, we shall be able to immunize persons affected in the earliest stages of the disease and thus prevent the fatal results.

THE DIAGNOSIS AND TREATMENT OF CHOLERA.*

By WILLIAM OSLER, M. D.

The diagnosis of Asiatic cholera, easy and clear during the prevalence of an epidemic, may be at its outset (and under the circumstances) exceedingly difficult. The clinical features of the disease and the bacteriological examination of the stools furnish the data upon which to base an opinion.

In the *clinical picture* we are at once confronted with the lack of symptoms distinctive of, and peculiar to, the disease. A case of cholera nostras (morbus) may present every feature of the imported malady; and though it rarely kills with the same rapidity, yet I have known death to follow in an adult within fourteen hours. The preliminary diarrhœa, the vomiting, the copious serous discharges, the collapse, and cyanosis offer no differential criteria.

It is only, however, during "cholera times" that this difficulty becomes serious; and then during the summer months, if the number of cases increases rapidly, it may tax all the resources of our art to reach a positive conclusion. The recent experience in Paris is, in this respect, most instructive. Throughout the month of May, June, and July, an epidemic of choleraic diarrhœa broke out in certain of the suburbs that received polluted Seine water, and more than four hundred deaths occurred. The disease, which was called cholera nostras, choleriform diarrhœa, and cholerine, in many instances killed within a few hours and had all the clinical characters of the Asiatic form; but the persistence in certain localities, without rapid extension, and the freedom of the city proper, encouraged the hope that it was due to intrinsic and not to extrinsic causes.

Dupuy's interesting report from the Hôpital St. Denis describes a disease of abrupt onset, a rapid course, and of great fatality, thirty-one deaths occurring in sixty-five cases. There seems to have been a disposition on the part of the authorities to conceal the serious nature of the epidemic—partly, no doubt, in consequence of the absence at first of positive bacterio-

**Medical News*, Phila.

logic information, and partly owing to the difficulty in obtaining uniformity in the opinion of the physicians, some declaring it to be true cholera, others that it was only a somewhat widespread endemic of cholera nostras.

Since, then, it must be acknowledged that in individual cases and even in local outbreaks, it may not only be difficult, but even impossible to distinguish clinically the two affections, the physician should, from the outset (particularly at the present juncture, when an outbreak may occur), take precautions as if dealing with true cholera, especially, in carrying out disinfection of the stools.

It is of the greatest importance to see cases early, before the symptoms of collapse appear, and people should be instructed to seek advice on the first indication of gastro-intestinal disorder. Dyspeptic conditions and diarrhœa, often premonitory symptoms, give timely warning in many instances, but by no means in all, for an individual may go to bed feeling quite comfortable and awaken during the night with cramps, vomiting and diarrhœa.

It is scarcely necessary to refer to the attacks simulating cholera produced by arsenic, corrosive sublimate, and certain fungi.

Bacteriologic examination is of the first importance, and should be carried out by experts who have critical familiarity with the complex flora of the intestines. Though there are difficulties, the differentiation of the comma-bacillus of Asiatic-cholera can be made, and has been made in the recent outbreaks in Paris by Netter, Chantemesse, and Roux. In all doubtful cases, measures of isolation and disinfection should first be used, and then a thorough examination carried out to determine the presence or absence of the comma-bacillus.

It seems almost an abuse of terms to speak of the *treatment* of a disease of which the mortality is at least 50 per cent.; but although measures are futile in the more malignant cases, there can be no question that prompt action may arrest progress in the less severe forms, while we have at our command the means of alleviating many of the most distressing symptoms.

The ideal treatment would be found in a remedy that, given early, would either control the multiplication of the bacilli in the bowels or neutralize the action of their poisonous products. Several drugs have been recommended for this purpose—salol, particularly on experimental grounds, by Loewenthal; and reports from various sources speak of good results. The drug may be given freely, in doses of from gr. xv to xxx every hour at first, for four or five hours, and subsequently every three hours. It probably acts by retarding the growth of the organism. There is no known remedy that is directly antidotal to the cholera poison. Brunton has advised atropine, to counteract the supposed contraction of the pulmonary arterioles, regarded by Sir George Johnson as the cause of the cyanosis.

The symptomatic treatment should be directed to—

a. Relieving the collapse by hot stimulants, as tea, coffee, brandy, and the external application of heat in various ways. The hot bath should be tried.

b. Checking the vomiting. Cracked ice and champagne, creasote, hydrocyanic acid, menthol, and other means may be tried.

c. Checking the diarrhœa. There can be no question that the collapse is directly due to diarrhœa, and yet it is probably an effort of Nature to get rid of the poison. Indeed, an evacuant treatment has been urged by Johnson, who advises the use of castor-oil; but the general opinion runs strongly in favor of the use of remedies to check the profuse discharges. Various combinations of opium and ether are employed, with or without astringents. Morphine, hypodermatically, is of the greatest value for this purpose, and is to be preferred to opium by the mouth if the vomiting is obstinate. It has the advantage also of quickly relieving the pains and allaying the terrible restlessness. Lactic acid has been strongly recommended by French physicians.

Two special measures may be given a trial, viz.: *hypodermatoclysis* and *enteroclysis*. The former Cantani urges upon the following grounds:

"1. The death of cholera patients supervenes either by asphyxia in the algid period or in consequence of a tumultuous reaction in the tyhoid stage, because the organism, through diarrhœa and vomiting, has lost a very high quantity of its aqueous constituents, and has retained or cannot longer eliminate the excrementitious materials—the products of combustion and decay—on account of suppression of the functions of the kidneys.

"2. Recovery occurs when absorption is resumed, in the intestinal canal, of the fluids which furnish to the blood and to the tissues the water which is indispensable to them."

The formula which he advises is as follows:

℞
Sodium chloride	80 grams.
Sodium carbonate	6 grams.
Boiling water	2 liters.

With a fountain-syringe and the canula of an aspirator, from one to two liters of the fluid is allowed to flow gently beneath the skin of the flanks. The tumor formed by the fluid is slowly rubbed away. He advises the warm bath in conjunction with the infusion. The operation may be repeated in two or three hours.

Enteroclysis is even more warmly recommended by Cantani, a mixture of laudanum and tannic acid being employed. The following is the precedure: "If a slight attack of a seemingly simple diarrhœa does not yield at once to rest in bed and the administration of a dose or two of warm infusion of chamomile, to which chlorodyne or laudanum has been added in proper quantity, then recourse should be had, without loss of time, to the warm enteroclysis of tannic acid. This enteroclysis is essentially an injection into the colon, per rectum, of a considerable quantity of warm water holding in solution a certain percentage of tannin. The rectal syringe, by means of which the injection is made, is furnished with an elastic tube three meters in length, with a nozzle at the free extremity and a cock at the proximal end. With such an instrument not only the whole length of the colon can be filled with the desired fluid, but also not infrequently a quantity can be made to pass beyond the ileo-cecal valve into the small intestine.

"The tannic solution recommended by Cantani is constituted for an adult as follows:

℞
Boiled water or infusion of chamomile, warm	2 liters.
Tannin	5 to 10 grams.
Laudanum	30 to 50 drops.
Powdered gum arabic	50 grams.

"The temperature of the mixture and the quantity to be injected should vary according to the age of the patient and other circumstances, in the judgment of the physician. The most convenient time for administration of an enteroclysis is immediately following an evacuation." (Shakespeare.)

Society Meetings.

The Mississippi Valley Medical Association will hold its Eighteenth Annual Session at Cincinnati, Wednesday, Thursday and Friday, October 12, 13 and 14, 1892. The program is a valuable one, containing many of the most prominent names in the profession our country affords. It covers every department in medicine. The attendance will be unusually large, as Cincinnati is the centre of population of the United States. Not only the scientific, but also the social part of the meeting will be of the highest order. The interest of the Convention will be augmented by the meeting of the gentlemen interested in the Pan-American Medical Congress, also other bodies of medical men. Dr. Benjamin Ward Richardson has written his earnest desire to be present. The Association will be just in time and just in line for many of the gentlemen en route for the American Public Health Association in the city of Mexico. Among the many prominent gentlemen who are expected to read are the following: Dr. Hunter McGuire, Richmond, Va., President of the American Medical Association, the address on Surgery; Dr. Hobart Amory Hare, professor of Materia Medica, Jefferson Medical College, Philadelphia, the address on Medicine. C. A. L. Reed, M. D., President, Cincinnati. E. S. McKee, M. D., Secretary, Cincinnati.

The Committee on Organization of the Pan-American Medical Congress will issue the preliminary announcement within a few weeks. This announcement will show that the organization has been perfected in almost every colony and country of the Western Hemisphere. The local medical societies in each of the constituent countries are made auxiliary to the Congress, which will be held in Washington, D. C., September 5th, 6th, 7th, 8th, 1893.

Dr. Reed, of Cincinnati, Secretary-General of the Congress and Chairman of the Committee on Organization, announces that after extended correspondence between himself and Dr. Maragliano, of Genoa, General Secretary of the International Congress, the date of the Rome meeting has been finally and definitely set for September 24th, of next year. This gives an interval of sixteen days between the Wash-

ington and the Rome meetings, during which time an easy trip can be made from the former to the latter city. It is possible that a steamer may be chartered direct from New York to Rome.

Selected Formulæ.

DISINFECTANT MIXTURES.

The *Sud-Deutsche Apotheker Zeitung* gives the following:

1. Crude carbolic acid..... 50 parts.
   Iron sulphate..... 25 parts.
   Slaked lime..... 150 parts.
   Calcium sulphate..... 750 parts.
   English red sufficient to color. Powder and mix.

2. Oil of tar..... 50 parts.
   Chalk..... 70 parts.
   Dried bran..... 80 parts.
   Mix.

3. Calcium sulphate..... 15 parts.
   Quicklime in powder..... 10 parts.
   Magnesia..... 10 parts.
   Crude carbolic acid..... 15 parts.
   Infusorial earth..... 7 parts.
   Mix.

4. Quicklime..... 70 parts.
   Charcoal..... 10 parts.
   Crude carbolic acid..... 6 parts.
   Zinc chloride..... 10 parts.
   Hypochlorated zinc oxide..... 5 parts.
   Infusorial earth..... 5 parts.
   Powder and mix.

5. Slaked lime..... 100 parts.
   Coal tar..... 25 parts.
   Infusorial earth sufficient to make a dry powder.
   Mix.

6. Sulphate of iron..... 68 parts.
   Plaster of paris..... 6 parts.
   Calcium sulphate..... 5 parts.
   Infusorial earth..... 5 parts.
   Powder and mix.

7. Iron sulphate..... 3 parts.
   Slaked lime..... 3 parts.
   Turf mold..... 4 parts.
   Mix.

This is especially recommended for privy vaults.

8. Iron sulphate..... 500 parts.
   Plaster of paris..... 475 parts.
   Crude carbolic acid..... 25 parts.
   Mix.

9. Crude carbolic acid..... 2 parts.
   Slaked lime..... 3 parts.
   Turf mold..... 4 parts.
   Mix.

This is the so-called Dietrich disinfecting powder.

SUMMER DIARRHŒA.

For children one year of age:

℞ Zinci sulphocarbolat..... gr. v.
Bismuth subnitr..... gr. xv.
Pepsin saccharat..... 3ss.
Ft. in chart. No. xv. div.....

M. et Sig.—One powder every hour until stools become inodorous; then every two to four hours.

—*Times and Register.*

TREATMENT OF MERCURIAL STOMATITIS.

The *Theräpeutische Monatshefte* recommends the following mouth-wash for mercurial stomatitis:

℞ Tincture of nut-galls.....
Tincture of myrrh.....
Tincture of rhatany ää..... 5i. M.
Sig.—This is to be painted on the gums.

As a tooth wash under these circumstances, the following is stated to be useful:

℞ Precipitated carbonate of lime.....
Calcined magnesia ää..... 5iv.
Powdered cinchona bark..... 5iv.
Chlorate of potassium..... 5i.
Powdered rhatany root..... 5ii.
Powdered soap..... 5vi.
Essence of peppermint..... mxiv.

SULPHONAL-PHENACETIN IN EPILEPTIC INSOMNIA.

—Dr. J. G. Kiernan, of Chicago, reports several cases of epileptic insomnia benefited by the use of the following:

℞ Phenacetin..... gr. xlviii.
Sulphonal..... gr. xlviii.
M. Ut. ft. cap. No. xii.
S. one at 6, 8 and 10 P. M.

A NEW METHOD OF TREATING TUBERCULOSIS, PARTICULARLY SURGICAL TUBERCULOSIS.

Max Schüller, in a pamphlet published in Wiesbaden, 1891, and reviewed in the *Deutsche Zeitschrift für Chirurgie*, Bd. 33, Heft II and III, strongly advises the use of guiacol in tubercular affections. It is given internally and is administered prepared as follows:

℞ Guiacol 5.
Sp. vini rectificat.
Aq. menthae pip. ana 150.
Olei papav. or. ol. jecor. aselli 50.

It is to be well shaken, and a tea to a tablespoonful given four or five times daily. For the past year, the author has been giving the pure guiacol in two to five drop doses in one hundred to one hundred and fifty grams of sugar water. There is also a new preparation, guiacol-carbonate, which may be used. The drug should be given continuously, for at least eight weeks, and is well born even for months.

In 90 cases of surgical tuberculosis, 70 were healed, 16 improved and 4 died. Locally, surgical treatment is advised to be used in conjunction with the internal administration of the guiacol; thus, in joint diseases the injection of iodoform is to be practiced, and, in glandular affections, extirpation and curetting. The favorable results of the remedy he ascribes to its action on the cells in the neighborhood of the tubercular focus.—*Univ. Med. Mag.*

THE

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THE MEDICAL AND SURGICAL REPORTER.

SATURDAY, OCTOBER 1ST, 1892.

CHOLERA.

The attention of the entire country for the past few weeks has been directed to cholera, from which we have thus far been preserved only by the prompt action of President Harrison and by the severe but just methods adopted at quarantine stations. When we think how many ways the dreaded disease can be introduced into the country, it seems wonderful that we have escaped the epidemic; and now that we have the mistakes committed, fresh in our minds we can draw excellent lessons from our experience of the past few weeks, which will enable us to better battle against the introduction of the plague, both at present—for the danger of its introduction is by no means past—and in the future.

Let us remember "In time of peace, prepare for war," whether that war is against invading armies of foreigners or invading armies of microbes! It is absurd that our country should wait until an epidemic lands in New York, before we make arrangements to handle the disease. Gov. Flower did a good deed when he purchased Fire Island to receive the passengers, and President Harrison acted well when Camp Low was established; but these places of refuge should have been established as soon as the disease was reported in Russia, instead of after the Cholera had reached New York harbor. Let other ports take proper warning and establish places of refuge for the reception of passengers from cholera ships!

The least we say about the shameful and cowardly action of the "clam-diggers" plus the Board of Health of Islip, the better. Their action is a disgrace to modern civilization.

Much complaint has been made against Dr. Jenkins during this critical period, but we should be cautious not to accuse him unjustly. He has shown himself to be a man of iron nerve as well as iron constitution; his official position is an unpopular one, and it would be almost impossible for any man to fill the place at such a time without making enemies. If the statements are true, that the quarantined vessels had difficulty in obtaining fresh water and disinfectants, then something was evidently wrong and some one was to blame for it. Considerable stock has been made out of the fact that dead bodies were allowed to remain upon ships for twelve or more hours after death, but this point can be blamed to the officers of the ships as well as to Dr. Jenkins. When a patient died at Camp Low and the tug was late in coming to take the body away, Surg. Gen. Hamilton lost no time in talk, but buried the body in quick-lime. The

officers of the ships had an equally efficient way of disposing of their dead when the tug failed to take the bodies away. The ships had plenty of coal and immense furnaces. The bodies could have been tied up in the mattresses upon which the patients died, and could have been burned on board. This thought may at first seem horrible, but it is not half so horrible as the thought of allowing the bodies to lie on board ship for several hours.

The ships' officers have in some cases been almost guilty of criminal neglect. It is beyond doubt, that mattresses and pillows were thrown overboard and washed up on shore, and that is totally inexcusable since fires were lighted and these articles could have been burned. It is also beyond doubt that the captain of one of the quarantined ships was on shore for a brief time. Rifle-balls would have been the best thing for a man who so far forgot his duty as this man did.

The action of the quarantine officers in fumigating the luggage of the steerage passengers is certainly to be commended, as it is a practice which can be carried out with good results *not only in time of epidemics but at other times as well.* If it is true, as is stated, that when the steerage passengers were bathed, two or more were obliged to bathe in the same water and wipe on the same towel, then this part of the ceremony should have been omitted since it was worse than useless.

In another column we give several selected articles, treating the subject of cholera from different stand-points. These articles put the matter in a plain straightforward way and are devoid of all minute technical details, at the same time they contain the most important facts upon the subject.

The second annual meeting of the American Electro-Therapeutic Association will be held at the New York Academy of Medicine, 17 West Forty-Third Street, October 4th, 5th and 6th, 1892.

Periscope.

THERAPEUTICS.

TREATMENT OF PLEURITIC EFFUSION.

Dr. Thorongood writes, (*Brit. Med. Jour.*, May 28): From such experience as I have had with the salicylate of sodium in cases of pleuritic effusion, I believe it to be often of service. It seems to act by reducing temperature and abating fever; and when this result is brought about, especially in cases of recent effusion, absorption proceeds at once. I have often remarked at the bedside that you do not get a pleuritic effusion to absorb while any inflammation or fever is going on.

In Victoria Park Hospital it has not been an uncommon thing for a patient to be admitted with one chest full of fluid, and after several days' rest this effusion has gradually gone away. I remember how my colleague, the late Dr. Sutton, used to enjoy telling me such cases where a pleuritic effusion vanished under treatment with tinct. cardam. co. ℥ ss, aquæ puræ ℥ j, t. d. s.

Mercury, I believe, limits inflammation in serous membranes, and so promotes absorption. When the absorption commences, the further administration of mercury may often be stopped. For years I have employed mercurials in recent pleurisy, and only once did I salivate a patient. In that case we rubbed mercurial ointment over a blistered surface, and, with some soreness of his gums, the patient recovered quickly.

I have given the tincture of the bryonia alba, a medicine that appears to be a good deal used for rheumatism, being known to all our chief chemists, and I certainly can speak favorably of it as checking inflammatory pleurisy and assisting absorption of fluid. The tincture is usually made according to the form given in the *United States Pharmacopœia.* I am told that the public use the sliced root of the bryonia for rubbing rheumatic joints. Like the salicylate, it is quite one of the antirheumatic medicines.

Before tapping a patient, it is a great advantage to be able to get the temperature down, for then the chance of another collection of fluid is not great. Draw off the fluid rapidly, while temperature is

still a febrile one, go on till the patient coughs violently, show the admiring friends a big lot of fluid, and depend upon it very soon you will be again called in to repeat the operation.

GLYCERIN IN THE TREATMENT OF HEPATIC COLIC.

At the meeting of the Académie de Médecine, March 8, 1892, Dr. Ferrand read a paper on this subject, of which the following are his conclusions:—

1. Glycerin administered by the stomach is absorbed as such by the lymphatic vessels, notably by those which proceed from the stomach to the hilus of the liver and to the gall-bladder; it is found even in the blood of the subhepatic veins.

2. It is a powerful cholagogue and a valuable remedy in hepatic colic.

3. In large doses (20 to 30 grammes—5 to 7½ drachms) glycerin cuts short the paroxysm at once.

4. In smaller doses (5 to 15 grammes—1¼ to 1¾ drachms) glycerin taken daily, in a little alkaline water prevents the return of the attacks.

5, Glycerin, although it is not a lithontriptic, is, however, the remedy *par excellence* for biliary lithiasis.—*La France Medicale*, March 11, 1892, p. 174.

THE TREATMENT OF PLEURISY.

In a communication to the French Academy of Medicine, West (*Bull. de l' Acad. de Med.*, xxvii, 3, 14, p. 484) states that pleurisy purulent from the outset is much more common in children less than twelve years old than in adults. If in a case of frank pleurisy with effusion absorption has not begun in the course of eight days, puncture ought to be made. In a large number of cases of purulent pleurisy in children, a single puncture suffices, if care be taken to prevent the entrance of air and if the wound be hermetically closed. It is scarcely possible to puncture too early.—*News.*

ATROPINE AND MORPHINE.

Prof. Unverricht (Dorpat), publishes the following regarding the antagonistic properties of atropine and morphine:

Many practitioners have claimed that atropine is an antidote in morphine poisoning. This suppositon has been disproved by experiments on animals, experiments which Herrback endeavors to explain by faulty work and experimentation. He claimed that it is impossible to arrange the experiments in such a manner as to make the antagonistic properties of these drugs self-evident.

Binz lays special stress on the increased excitability of the center of respiration when atropine is exhibited.

Unverricht had occasion to study a case in which the diminished action of the respiratory centers caused by morphine were not improved by atropine.

Patient had emphysema and degeneration of the heart. He had pronounced Cheyne-Stokes respiration after the injection of 1-6 grain morphine. To investigate whether atropine is able to remove the disturbances caused by morphine, 1-60 grain of atropine was injected into the patient. If then it is true, as supposed, that the Cheyne-Stokes respiration is the result of a diminished action of the respiratory centers, and atropine is able to stimulate this center, then it was to be expected that this symptom would disappear after the administration of atropine. But, as a fact, the very reverse occured. The interruptions of breathing became so very long that a repetition of the experiment was considered dangerous.

The conclusion was then reached that, because atropine augmented the symptoms caused by morphine, atrophine produces the same results in respiration as morphine.

Further experiments showed that atropine if exhibited alone will also cause Cheyne-Stokes respiration. Hyoscine and duboisine had the same action.

Unverricht cautions against the use of these drugs as antidotes in morphine poisoning.—*Centralb. f. Klin. Medezin.*

ARSENIC IN LYMPHOSARCOMA.

After referring to the good effects produced by this drug in malignant lymphoma and the glandular enlargement of pseudo-leukæmia, E. Romberg (*Duet. med. Woch.*, May 12th, 1892) reports the following exceptional case. A man, aged 29, suffering from primary lymphosarcoma of the mediastinum, had secondary deposits, especially in the lymphatic glands and in the skin. In the course of the treatment by arsenic, the tumors of the skin actually disappeared in from two to four weeks'

time. There was no such change in the other growths. The nature of the case was subsequently proved by the necropsy conducted by Birch-Hirchfeld. The author can see no other cause for the disappearance of these growths than the arsenic, and he refers to two other published cases in which sarcomotosis of the skin was apparently cured by the same drug. The author says that the case reported here demonstrates how ill-defined is the division between malignant lymphoma and lymphosarcoma, and how indefinite is the term pseudo-leuksæmia. The enlargement of the spleen, the hyperplasia of the tonsils, and the good effect of arsenic, show the above case of lymphosarcoma to be closely allied to malignant lymphoma.—*Brit. Med. Jour.*

THE TREATMENT OF PNEUMONIA WITH DIGITALIS.

Hoepfel (*Therapeutische Monatshefte*, April, 1892), reports fifteen cases of pneumonia treated with infusion of digitalis. Forty-five to sixty grains of powdered digitalis is made into an infusion with four ounces of water, the whole being used in the course of twenty-four hours. He concludes, *First:* That toxic symptoms never occur; where vomiting occurs it can be controlled by the use of strong coffee. *Second*: In all the cases the temperature fell, the dyspnœa, pain, etc., disappeared after one to two days' use of the drug. *Third:* All the cures were shortened from one to three days. *Fourth:* The cures usually ended by lysis.

THE USE OF DERMATOL IN EAR AFFECTIONS.

In the *Therapeutische Monatshefte*, No. 12, for 1891, Davidsohn gives the results of his experience with dermatol in purulent affections of the ear. This substance, which is a sub-gallate of bismuth, has been recommended on account of its absorbent and antiseptic properties. He found it useful in otitis externa, and in many cases of chronic otitis media, but in some cases of acute middle ear inflammation it was not only useless, but became a source of danger from the way in which it formed cakes in the discharge. In two cases of cholesteatoma formation he found it of very good use. In its action he appears to have found it similar to boracic acid.

DUBOSINE SULPHATE.

Dr. Lewald, in "*Der Irrenfreund*," says that as a sedative in mental diseases this drug has no superior. He has used it in a large number of cases, and finds that its hypnotic influence can be depended upon. It is to be administered subcutaneously, in doses of not more than 0.002 gr., and it is in no case to be increased.

The author thought that if the drug were more widely known the time would not be long before it would supercede hyoscine, as it was more effective and possessed less disagreeable properties.

VESICATION OF THE FOURTH AND FIFTH DORSAL VERTEBRÆ IN THE TREATMENT OF NEUROSES.

Alexander Harkin has repeatedly remarked that in men, as well as in women, who are suffering from various neuroses, the spine, in the region of the fourth and fifth dorsal vertebræ, is sensitive to percussion and pressure; and, basing his therapeutic experiment upon this, he has employed counter-irritation of this sensitive spot, in the treatment of various neuroses, and with success. In several cases of hysteria, trigeminal neuralgia, chorea, paralysis of the facial nerve, reflex vomiting, torticollis, dental neuralgia, occipital pain and pruritus pudendi during pregnancy, the writer has employed this treatment with very good results. It consists in the application of a cantharidal blister and ether to the sensitive spot, the region of the fourth and fifth dorsal vertebræ.—*Wiener medizinische Presse*, No. 6, 1892.

TREATMENT OF PURULENT PLEURISY.

De Gassicours (*Revue des Maladies de l'Enfance*, tome x., February, 1892) reports ten cases of purulent pleurisy treated in accordance with the principles laid down by Breton, seven of whom recovered. One of the deaths was due to diphtheria. In nearly all the cases the pus contained pneumococci, usually in pure cultures. This always should be regarded as a favorable prognostic sign. Both the fatal cases were suffering from tuberculosis. In those cases of pleurisy in which the pneumococci are the causative agents, cure from puncture can be hoped for, often a single puncture being sufficient. Usually more will be required. Three successive punctures should be made, practiced at five days

intervals. If after the third puncture—that is, after fifteen days—pus is found still present in large quantity, formal operation for empyema must be undertaken. When streptococci are found together with the pneumococci, the prognosis is far more serious. Even in this case it is possible that punctures alone may cure, but formal operation is usually required.

MEDICINE.

PHTHIRIASIS OF THE EYELIDS.

Following a communication which Dr. Jullien made to the French Dermatological Society upon phthiriasis of the lids, a number of similiar cases have been published in France, which seems to prove that this localization of the pediculus pubis is less exceptional than was at first thought. All these authors are in accord in recommending as the best method of treatment the patient and careful extirpation of all the parasites and their eggs with dressing forceps, by which means, with a little cleverness, a single seance suffices.

THIRTY-FIVE HUNDRED COMPARATIVE OBSERVATIONS ON THE PULSE, RESPIRATION AND TEMPERATURES OF CHILDREN.

Shufeldt (*N. Y. Med. Jour.*, 1892, liv., 258.) furnishes a paper based upon a careful observation of six children; the pulse, respiration and temperature were accurately taken every morning and evening, and these observations were made comparative with the temperature of the ward noted at the corresponding times, and with such other atmospheric changes in their environment as would be likely to influence the states or other physical condition of the children.

A brief summary of the results showed:

1. The variations in the temperature of a child, both during an attack of rubeola and for a long time afterward, as compared with its pulse and respirations.

2. The effect of the temperatures of the ward in cases of rubeola.

3. A normal curve of rubeola unaffected by treatment, and the course of the temperatures, pulses, respirations, and so forth, for a long time afterward.

4. A long curve of normal temperatures compared with the pulse and respirations, and showing the effect of exercise and atmospheric temperatures on the physical conditions.

5. A curve showing rubeola followed by cholera infantum, with comparisons of pulse, respirations and atmospheric temperatures.

SCIATICA AND VARICOSE VEINS.

Quénu (*Med. Mod.*, May 12th, 1892) expresses the opinion that certain cases of sciatica are due to varicose veins. He states that in people with varicose veins and sciatica, varicose veins are found around the nerve and sometimes adherent to it. A patient who had tried various other measures without success obtained relief for two years by wearing an elastic stocking up to the groin. In two other cases in which the pain had been intolerable, Quénu dissected the veins away from the nerve. The pain disappeared, and has been absent for fourteen months in the one case and four or five months in the other more recently operated on. He looks on the operation of stretching the nerve as a brutal procedure giving by no means brilliant results.—*Brit. Med. Jour.*

EMPYEMA.

Rudolph (*Centralbl. f. klin. Med.*, May 7th, 1892) relates the following exceptional case occurring in a young man, aged 18. On January 5th, 1891 he had a rigor, and then went through a typical attack of acute pneumonia affecting the left lower lobe, the crisis taking place on the 13th. He was without fever until the 23rd, when, after a rigor, he had an equally typical pneumonia of the left upper lobe. On the 28th there was a rapid defervescence, but afterward the temperature became intermittent. On February 16th signs of fluid were found at the left base, and pus was withdrawn by the exploring needle. Incision with removal of a piece of the seventh rib was practiced, and a litre of pus evacuated. On March 2nd the temperature again rose. The abnormal signs still present over the left apex had been attributed to delayed resolution. Exploration in the second left interspace revealed pus. The chest was again incised, and a piece of the third rib removed; 2,000 cubic centimetres of

pus were let out. There was no communication between the upper and lower empyema. The subsequent course of the case was tedious. A sequestrum of bone was removed from the lower wound on June 27th, and the patient was discharged well on September 9th. After pointing to the metapneumonic character of this biloculated empyema, the author observes that the adhesions forming the partition must have arisen during the acute pneumonia, as there had been no previous illness. The strength of these adhesions was remarkable. It is the practice at the Magdeburg Hospital, Rudolph says, to resect a rib, and to wash out the pleural cavity in all cases of empyema.—*Brit. Med. Jour.*

ORCHITIS FOLLOWING INFLUENZA.

Briscoe (*Lancet*, No. 3569, p. 192) reported the case of a laborer, thirty-two years old, in which, after an attack thought to have been influenza, orchitis developed, without other complication.—*News*

RAYNAUD'S DISEASE OF SYPHILITIC ORIGIN.

Dr. A. Elsenberg reports the following case: A patient 22 years old, of slight build, and badly nourished, violent diarrhœa. Examination revealed syphilis. On the body there was a syphilitic eruption; on the forefinger of the right hand, as on both legs, there were isolated dark-brown spots, resulting from cutaneous gangrene, from which exuded an offensive, serous liquid. The soft parts of the toes of the right foot partly, and entirely of the left foot, had become mortified. The patient, after having been one month in the hospital, died, and on post-mortem examination gummata in the liver and atheromatous degeneration in the right arteria dorsalis pedis were found. The microscopical examination of the skin taken from the sphacelated parts showed infiltration in the vicinity of the vessels and sudorific glands, thickening of the walls of the vessels, narrowing of their lumen, in some places entire obliteration, in others proliferation of the endothelium, and even development of small gummata between the endothelium and the middle stratum of the vessel. The author, at the end of his article, arrived at the conclusion that Raynaud's disease may arise from various causes, as in the given case from syphilis, and not, as Raynaud thought, exclusively from a reflex spasm of the vessels.—*Gazeta Lekarska*, No. 5. January 30, 1892.

CARCINOMA OF THE BRAIN SECONDARY TO THAT OF THE BREAST.

Patient was a female aged 41; two children; no history of cancer in the family. On June 11th, 1877, right breast was amputated for scirrhus, the tumor being the size of a hen's egg and situated in the upper part of the breast. No glands could be felt in the axilla. Subsequently there were several small glands removed. Since leaving the hospital patient has suffered from headache, which has been very severe, more severe during the night; absent during the day; referred to vertex and frontal regions. No vomiting, but complains of weak eyes. Is dull and forgetful. General paralysis with rigidity of arms; paralysis has been very gradual in its onset. Ptosis of left eyelid. Necropsy showed the brain to be of normal size; no tumor to be seen externally. Situated in the posterior of the occipital lobe of the left cerebral hemisphere was a large deposit of carcinoma; it was of a considerably firmer consistence than the normal brain substance, was somewhat granular on section and of a grayish-white color; was nearly two inches in diameter antero-posteriorly and the same vertically, and reached the posterior surface of the brain, where it was adherent to the dura mater. The upper limit reached a little above the level of the roof of the lateral ventricle. Another carcinomatous deposit, an inch in diameter, was situated in this hemisphere above the anterior to the Sylvian fissure at Broca's convolution. The points of interest are, as it will be seen, that the tumor occupied what is known as the visual centre in the occipital lobe. Unfortunately the eyes were never very satisfactorily examined, although several attempts were made, but slight optic neuritis existed on the right side—opposite to that of the tumor. The other tumor was situated at what is known as "speech centre"—viz., the posterior fronta of the third convolution, and adjacent parts of the ascending frontal and left cerebral hemispheres, which will account for the loss of speech. There was partial recovery of speech a few days before death, probably due to the right cerebral hemi-

sphere taking on that function. It is worth nothing that loss of speech from disease of the left hemisphere is, as a rule quickly recovered from in children by the compensatory use of the right hemisphere. This takes place in some adults, but in others not.—*Lancet*, Oct., 1891.

ILLUMINATION OF THE STOMACH.

Renvers (*Münch. med. Woch.*, April 12th, 1892) recently demonstrated to the Berlin, Medical Society an apparatus which consists of a small Edison's lamp fixed to the end of a bougie and covered by a small glass case filled with water. The electric current is obtained from a battery of twenty cells. If the stomach is full of food illumination is impossible, but if it is quite full of water when the lamp is passed into the stomach an illuminated area is seen which corresponds exactly to the limits of the organ. The apparatus can only be used in the erect posture, when the greater curvature is usually seen a little below the level of the umbilicus. Abnormal dilatation of the stomach can be readily detected, and a case of carcinoma of the organ has been diagnosed by the use of this apparatus, the diagnosis being confirmed by *post mortem* examination. The tumor appeared as a dark spot in the light field.—*Brit. Med. Jour.*

TREATMENT OF TABES-DORSALIS.

Leyden (*Berl. klin. Woch.*, 1892, Nos. 17 and 18) first refers to the drugs most commonly employed. With regard to mercury, he would not oppose its use, but he rejects altogether the syphilitic origin of the disease. Many of the cases which have got well under mercury have been examples of peripheral-neuritis. The treatment by baths sometimes yields good results. Electropathy is, in the author's opinion, a valuable method of treatment, but massage can have but little effect. Leyden does not believe much in suspension, nor in nerve-stretching, nor yet in the orthopædic treatment. He lays considerable stress on what is called the compensatory treatment of this disease, namely, that when the disease is incurable, the disturbance of function should be minimized as much as possible. In tabes-dorsalis the ataxy is one of these disturbances, and this may be in great measure compensated by the use of gymnastic exercises. The very valuable paper by Fraenkel (*Münch. med. Woch.*, 1890, No. 52) on the use of these graduated exercises in disordered co-ordination is referred to. Under the head of complications the pains and gastric crises are chiefly alluded to. The author cautions against the indiscriminate use of morphine. The loss of weight often occurring rapidly if the gastric crises last long, must be counter-balanced by good feeding in the intervals. The avoidance of over-exertion, exposure to the weather, and excesses of all kinds is naturally insisted on.—*Brit. Med. Jour.*

GONORRHŒAL CYSTITIS.

Much controversy has arisen in regard to the real existence of specific gonorrhœal cystitis. Du Mesnil holds (Virchow's *Archiv*) that there is no such thing, and states that when gonococci are present in the urine they have, in all probability, come from urethral pus, and are not products of a true specific inflammation of the vesical mucous membrane itself. In women, he says, pus might easily get into the bladder from the urethra or the vagina, and maintains, on the strength of recent researches, that gonococci have no effect on the composition of the urine, and that cystitis with ammoniacal urine is not produced by these bacteria. On the contrary, it is held that the urine renders the gonococci harmless, or even kills them entirely.—*Merck's Bulletin*, May, 1892, p. 286.

SURGERY.

RESECTION AND SUTURE OF THE URETHRA.

Jouon, of Nantes (*Sem. Méd.*, May 4th, 1892) reports a case of rupture of the urethra followed by urinary abscess and considerable induration of the tissues, which he treated successfully by resection and suture. The resected segment measured ten millimetres at the upper and eighteen millimetres at the lower part. The cut surfaces were brought together with nine fine catgut sutures. The immediate results of the operation were per-

fect, and Jouon thinks that the method should be applied to all undilatable sutures, whatever their origin. Quénu (*Sem. Méd.*, May 11th, 1892) has resected the urethra with indifferent success. The patient was a horseman who had sustained a traumatic rupture of his urethra, and during a period of ten years had undergone internal urethrotomy five times and dilatation on several occasions. The man was in a wretched state, the urine being purulent and ammoniacal, and the bladder the seat of infective lesions. Resection of the strictured portion of the urethra was performed, one centimetre and a-half being excised. A fistula was left, however, and the condition of the urine was but little improved, and Quénu thinks it probable that this was the cause of the failure of the operation. In any future similar case he proposes to prevent the infection of the operation wound by the urine by first making a provisional buttonhole opening in the membranous portion of the urethra. Desprès (*ibid.*) points out that resection of the urethra is not a new operation, having been practiced by Bourguet, of Aix. He thinks suture unnecessary after resection, as healing takes place by granulation when a catheter is tied in. In this way he cured a patient with a strictured and fistulous urethra, two centimetres of which he resected. The fistula left by the operation closed spontaneonsly in a few months.—*Brit. Med. Jour.*

CURETTING OF THE LACHRYMAL SAC

Dr. F. Despagnet urged this before the Congrès Français d'Opthalmologie (*Recueil d'Opthalmologie*, ann. xiii., No. 5), his conclusions being that: Whenever the overflow of tears arises from catarrh of the lachrymal sac (this being the most frequent cause) the alteration of the mucous membrane was the principal factor, and by catheterizing and the injection of astringents the attempt should be made to modify this. If this treatment, practiced through a greater or less period, does not produce the desired result, curetting of the mucous membrane is the operation to be chosen, because it attacks directly and without complication the diseased part and allows the preservation intact of the lachrymal excretory apparatus. If the epiphora coexists with great dilatation of the sac, the curetting should be preceded by the excision of a portion of its anterior wall. Curetting is also indicated in the case of abscess in the sac.—*Amer. Jour. Med. Sci.*

A NEW TREPHINE.

Tauber describes a new form of trephine, by means of which a disc of bone in the shape of a truncated cone can be removed from the skull. The advantage claimed for this shaped button is that on replacing it the level of the skull is preserved, that is, the button does not tend to fall in, also its margin is in close contact with the hole from which it was removed. The author believes that with this instrument, a surgeon may safely remove a series of dics and thus expose a large extent of the surface of the brain. The openings which are not united may be immediately filled up with every confidence of complete closure by speedy osseous reunion.

EXCISION OF AN ŒSOPHAGEAL DIVERTICULUM.

Von Bergmann, of Berlin reports (*Arch. f. klin. Chir.* Bd. 43, Heft 1) the following case, which he believes to be the first in which extirpation of an œsophageal diverticulum has been performed. The patient was a woman aged 38, who for four years had suffered from disordered digestion. She vomited all food almost immediately after taking it, and could feel her neck become thicker as she swallowed. The sound passed sometimes with perfect ease, and at other times was arrested a little way down. As nutrition was seriously affected, and as the prognosis of such cases is bad (13 deaths in 21 cases), Von Bergmann determined to attempt excision of the pouch. A long incision was made along the anterior border of the left sterno-mastoid. The deep cervical fascia was next divided, and a large goître, which seriously hampered the operator, partly separated from its attachments and turned aside. The superior and inferior thyroid arteries, and several veins were tied. The retro-œsophageal space was now exposed, and after a little search the diverticulum was found and freed from the surrounding tissue with the handle of the knife and forceps. It could then be seen hanging from the gullet

like a small pear. It was removed, after which the mucous membrane of the œsophagus was brought together with stitches. The lower part of the operation wound was closed with sutures, the remaining portion being plugged with idoform gauze. Although the patient had a drink immediately after the operation, the œsophageal wound healed by the sixth day. A small fistula which remained closed up after a few applications of the galvanocautery. The wound in the neck then healed up by granulation without further trouble, and the patient was completely cured. As the pouch had a muscular covering on the outer surface, and as the patient had probably suffered from a cervical fistula in infancy, von Bergmann thinks the diverticulum was congenital in origin.—*Brit. Med. Jour.*

AURAL CATHETER STEAM STERILIZER.

Bark, *Journal of Laryngology, Rhinology and Otology*, July, 1892., states that the instrument consists of a metal globe, to which is attached by means of a screw a bent tube with a conical nozzle covered with rubber tubing. A small metal ring is attached to the globe for the purpose of holding it. The globe is then half filled with water, and the bent tube screwed firmly down. The large end of a catheter is then placed upon the nozzle, and the globe held over the flame of a spirit lamp. A powerful steam jet is in this way forced through the catheter, thoroughly cleansing it. The catheter is then immersed in some antiseptic fluid.

FRACTURE OF THE BASE OF THE SKULL.

Dr. Leopold Schiller reports the case of a laborer. While lowering, by means of a rope, an iron column, was struck above the right ear by a swinging column and thrown on his head against a four-by-four beam. Became unconscious. There was a severe scalp wound, bleeding from both ears, nose and mouth, and there was paralysis on both sides of the face and fauces. Bilateral lagophthalmus and a convergent squint of the left eye, the pupil of which was larger than that of the right and sluggish in action. Severe headache, which continued five or six days, but gradually disappeared. Sensation of dizziness which lasted several weeks. Right side of face soon began to regain mobility, and in three weeks patient was able to close right eye and wrinkle forehead on right side. Left side showed no sign of improvement, but later regained considerable mobility. Strabismus disappeared, but still had dizziness and ringing in the ears, also slight parasthesia of the tongue.—*Med. News*, Mar. 5, 1892.

DERMATOL IN SURGICAL PRACTICE.

At a meeting of the Spanish Medico-Chirurgical Academy, Azna (*Revista de Med. y Cir. Pract.*, March 7th, 1882) gave an account of his experience of dermatol in surgical practice. Even when employed in large quantities he said it does no harm; it stimulates granulations, and is particularly useful in skin affections, such as eczema, which are characterized by much discharge and if dermatol is applied to the wounds which have already begun to granulate it greatly stimulates the process, and similarly in the case of soft chancre after the ulcers have been cleansed with antiseptic lotions, dermatol hastens repair, and brings about rapid and thorough healing.

In diseases of the skin Azna things that dermatol, with its drying and astringent properties, its absolute harmlessness, and the ease with which it can be used, may advantageously replace starch powder, oxide of zinc, etc.

It is also useful in the affections of the female genitals.

THE MECHANISM OF CONCUSSION OF THE BRAIN.

In *Brain*, part i of volume xiii, there is a paper by Dr. Alexander Miles supporting and confirming the conclusion published by Duret, that the group of phenomena commonly spoken of as "concussion of the brain" is the result of a temporary anæmia of that organ. This anæmia is the reflex result of stimulation of the restiform bodies, and perhaps of other important centers in the region of the bulb, produced by the wave of cerebro-spinal fluid which rushes through the aqueduct of Sylvius and the foramen of Magendie from the subarachnoid space of the brain to that of the spinal cord when a severe

blow is dealt over the skull. In accordance with the laws of hydrostatics this cerebro-spinal wave will disturb the equilibrium of the ultimate nerve cells throughout the central nervous system. The hæmorrhages found throughout the brain substance and on its surface are to be ascribed to the recession of the cerebro-spinal fluid, which naturally supports the blood-vessels of the cerebrum. These petechial hæmorrhages are not the proximate cause of the symptoms of concussion, but are rather to be looked upon as an index of the force that produced the injury.—*N. Y. Med. Jour.*

A SIMPLE METHOD OF TREATING MANY CASES OF LACHRYMAL OBSTRUCTION.

Dr. George M. Gould (*New York Medical Journal*, June 4, 1892) gives his method as follows: "First empty the sac and canaliculi by dexterous pressure, and cleanse the eye and palpebral pockets of this unhealthy material, (water, mucoid and purulent.) Then cast the patient's head back and to one side, or have him lie so that a teaspoonful of liquid will be held in the depression formed by the nose, orbital border and superior maxilla. Fill this space with a solution of boric acid, and with the little finger again empty the sac and canaliculi by pressure, and then as slowly lessening the pressure, allow these spaces to refill, by suction and capillary attraction, with the solution under which the puncta are submerged. Again in half a minute empty the canaliculi and sac by pressure, but this time beginning the pressure from the canthus toward the nose and downward, so as to force the antiseptic solution downward into the duct. These emptyings and refillings of the sac may be repeated several times and as often as desirable to meet the indications of the case. It will be usually found that the sac will soon become healthy, and that pressure upon it will not cause regurgitation of morbid material through the puncta."

The solution which Gould uses is composed as follows: "To the ounce of distilled water; of boric acid, ten grains; common salt three grains; chloride of zinc one grain—all deeply tinted with pyoctanin-blue, and doubly filtered after long standing."

Gould adds: "A certain number of cases will not yield to this treatment. There is too great stenosis of spasmodic contraction of the muscular sphincter of the punctum, etc., so that the cleansing solution cannot be forced into the sac and duct. In such cases I am accustomed to insert one sharp point of the iris scissors into the punctum and snip it open one eighth of an inch, perpendicularly downward toward the conjunctival fold. This gives a larger opening for the indrawal of the solution."

Gould states that he is astonished to see how rapidly cases recover under this simple treatment, that formerly would have seemed to demand slitting of the canaliculus and probings."

RUPTURE OF THE BLADDER.

Schlange, in the *Archiv für klinsche Chirurgie*, Bd. 43, H. I., discusses the treatment of rupture of the bladder, and gives the history of a case. He collected 32 cases treated by operation. In 22 of these the rupture was intraperitoneal, of which 10 recovered and 12 died. Of the remaining 10, 7 were cured and 3 died. His own case was as follows: A man aged 34 years, was run over by a wagon, the wheel passing over the abdomen, the bladder being at the time distended. He was brought to the hospital the next day. His breathing was shallow and pulse rapid. The abdomen was distended, and desire to urinate and pain were marked. The catheter only withdrew a few drops of bloody urine. On operating, the prevesical tissue was found infiltrated with bloody urine; the bladder was darkly colored, collapsed, and contained a few blood-clots. On the left side, posteriorly, near the prostate, was a tear five cm. long, and connecting with it, a cavity between the rectum and bladder. Another and somewhat larger tear was found in the apex of the bladder. The abdominal wound was enlarged up to the umbilicus, another cavity containing bloody urine being opened in so doing. Irrigation was not employed, as the extravasated urine was regarded as being only a chemical irritant and not of an infective nature. The posterior opening in the bladder was closed with catgut sutures and the edges of the interior one sewed to the skin. The cavity of the bladder was loosely filled with gauze, one end being brought out of the wound for drainage.

The subperitoneal cavities were tamponed with gauze. In fourteen days the tampons came away and the wound granulated shut—the man remaining permanently cured.—*Uiv. Med. Mag.*

PEDIATRICS.

GLYCERITE OF BORAX IN INFANTILE DIARRHŒA.

G. Mansal Simpson reports in the *Lancet*, April 1892, his experience in the treatment of infantile diarrhœa, by means of glycerite of borax. Glycerine and borax, both possessing antiseptic and soothing properties, soon correct the fermentation of the contents of the alimentary canal, the stools soon losing their offensiveness and becoming normal. The ordinary dose for a child is about 20 minims, administered every two or three hours, according to the severity of the symptoms. The medicine should be diluted with water, and may be flavored to suit.

THE TREATMENT OF INFANTILE DIARRHŒA OF WARM COUNTRIES.

Dr. F. Roux divides the diarrhœas into four classes: 1. Simple catarrhal enteritis, frequently developed by cold, requires only rest, restricted diet, soothing applications to the abdomen, and graduated doses of paragoric. 2. Diarrhœa dependent upon digestive insufficiency, requires a small amount of magnesia in a half-glass of Vichy (St. Yorre) as a purgative, a milk diet, and soups devoid of fat. If the stools are offensive, a powder consisting of equal parts of the salicylates of bismuth and magnesia; naphthol being here contra-indicated because of the irritation which it produces. The return to the ordinary diet must be gradual, and before each meal he directs small doses of nux vomica, rhubarb, anise seed, and calumba, in a claret glass of Vichy or Vals. During the meals hydrochloric acid, and afterward pepsin, diastase, and pancreatin. He counteracts diarrhœa and vomiting by opium, the constipation by rhubarb. 3. The diarrhœa that follows dysentery calls for enemata of boric acid, nitrate of silver, or tincture of iodine, and the prescribing of a strict diet. 4. In true tropical diarrhœa the small intestine is the seat of disease, and it is necessary to insist upon intestinal antisepsis, salicylate of bismuth, sulpho-carbonated water, enemata of boric acid, or, better, of borated infusion of eucalyptus, with abdominal counter-irritation, as by tincture of iodine, or gentle friction with flannel moistened with turpentine. The only method of satisfactory cure consists in an absolute milk diet, to which is added lime-water or Vichy salt. As soon as the stools are formed, beef-tea, peptones, slightly cooked white of egg, raw beef, eggs and milk, and, last of all, rice in milk can be tried. At all times remedies which assist digestion must be employed, while wine and every form of alcohol is absolutely prohibited. When the disease is cured, it is necessary for a long time to watch over the diet, and use remedies that build up the general condition.—*Amer. Jour. Med. Sci.*

TRACHEOTOMY STATISTICS AT L'HOPITAL DES ENFANTS-MALADES SINCE 1886.

Year.	Number of Tracheotomies.	Died.	Cured.	Proportion per cent.
1886.....	356	297	59	16.57
1887.....	365	307	58	15.89
1888.....	360	310	50	13.88
1889.....	261	202	59	21.60
1890.....	296	227	69	23 27
1891	256	175	81	31.64

These statistics show at a glance, notwithstanding the absence of details, the increase in the proportion of recoveries during the last three years. This statement was prepared by Mlle. Deaussoir, Superintendent of the Diphtheria Pavillion, to whose care is owing in no small measure the improvement noticed in the statistics.

As is known, the service in this pavillion passes every three months to the different members of the Visiting Staff in turn, whose methods of treatment vary necessarily; moreover, no mention is made of the different topical applications employed. But, whatever application is used locally, the tonsils and pharynx are always cleansed with the greatest care. Tracheotomy is performed on the upper portion of the trachæ without chloroform. —*Revue des Maladies de l'Enfance*, May, 1892, p. 229.

INSOMNIA IN AN INFANT.

If there exists in the literature any record of real insomnia in very young infants, the fact has escaped my observation. The natural tendency of early infantile life is

to spend itself mostly in sleep. The neurologically healthy babe during the first few weeks of its extra-uterine life is kept awake just as it is caused to cry by some unpleasant or disagreeable excitation. Much of the first six weeks of its existence out of the mother's womb is passed in sleep, A sleepless babe, not subjected to sufficient corporeal pain or irritation to provoke crying, is an anomaly. Yet such is the fact which I have to record of a female infant, five weeks of age, who, without physical or mental provocation, would lie awake with eyes wide open and gaze about in placid contentment throughout the night, unless sleep were induced, as in the more aged, by hypnotics. The child was quiet and tranquil and free from pain or other source of bodily discomfort.

It was well cared for by a faithful and intelligent nurse. Its napkins were always dry and soft, the umbilical cord had separated and the naval had healed, having been carefully dressed with simple cerate and patent lint; colic and constipation had been carefully guarded against. The babe nursed well, the mother had sufficient milk, and its evironments were all favorable to rest and sleep, yet it slept not for several nights and not then until after receiving treatment for insomnia, as an adult would, only in proportion diminished to suit its age.

This insomnia would recur if the treatment were omitted, until about the end of the tenth week. The child then slept without medical assistance and became a vigorous and neurotically tranquil babe.

Sleep was only induced by five-grain doses of bromide of sodium and three-grain doses of chloral put into a small amount of milk and given the babe from a bottle. the chloral once at night and the sodium salt twice or thrice daily for a brief period. Celery and catnip teas and the hypophosphites were also given freely.

This child's mother had been much excited, mentally and nervously, verging on mental aberration, during the period of gestation and before, and required the skill of a practised alienist to avert a puerperal psychical climax after the birth of this infant. The mother was given hypnotics and the bromide salts quite freely during the first few weeks after the birth of the child, which may account for the insomnia not having appeared earlier as a hereditary condition, as it appears really to have been. To my mind, the mother's neuropathic condition before and after the birth and at the time of conception, explains the state of the child. Before the insomnia was arrested some slight chorea became manifest, but this disappeared with the restoration of normal sleep and neural recuperation and central nerve stability.—Dr. C. H. Hughes, in *Alienist and Neurologist.*

HYGIENE.

THE DANGERS OF READY-MADE GARMENTS.

No term, perhaps, possesses a more familiar meaning than the word "parasite." Happy, indeed, would be that animal which, however unconscious of etymology, had not the most intimate relation with it. It seems an almost hopeless task to search for this enviable creature. We should despair of finding it even among the animalcula or in the cell world of histology.

> "So, naturalists observe, a flea
> Has smaller fleas that on him prey:
> And these have smaller still to bite 'em,
> And so proceed *ad infinitum.*"

It is not numbered with the greater beasts. It is not man, whether of high or low degree. The Scottish poet describes, in a humorous poem which is frequently quoted for the pointed lesson it conveys, the career of one well-known parasite which he observed, "plump and gray," strutting on a lady's bonnet at church. A correspondent writing in a somewhat similar vein, confesses to a like experience. She dilates upon "some exceptionally dainty and befrilled hand-made *lingerie*, snowy, spotless, crisp, and garnished with lace," but, she pathetically adds, with "a something half hidden under a tuck." It was, in her servant's *patois*, a "death louse." Need we be surprised that our correspondent adds to her graphic description the warning that all bought underclothing should before wearing be made to undergo "the full laundry process," the more especially since it appears to be quite customary (may the custom early become extinct!) for firms to send even such articles "on approval" to be tried on? What possibilities does this practice open up, not only of parasite migration, but of

the actual communication of disease. It is a veritable method of infection and it has doubtless acted as such more often than we are aware of. The only real remedy, of course, consists in its entire discontinuance. Less than this ought not to satisfy a wholesome public opinion. Until, however, the usage of trade in this particular is above suspicion a careful examination and free ventilation of all purchased clothing should not be omitted, while such further measures as "the full laundry process," and, beyond this, antiseptic fumigation, can never be superfluous.—*Lancet.*

DISINFECTING FOOD.

The Governor-General of Kiév appointed committees last fall to gather the morsels that are left on the table after meals in the large cities, and to send them to the famishing peasants. A large portion of this food comes from communal institutions, such as casernes, hospitals, and from social repasts. The question arose whether it would be possible to disinfect these fragments so that the contagious diseases of the eaters who left them on the table might not be conveyed to the beneficiaries without at the same time destroying the food. The question was referred to the Bacteriological Institute of Odessa, and the following instructions were received in reply: "Morsels of bread left over by persons infected with diphtheria, typhoid, or other contagious diseases, become perfectly disinfected if dried at a temperature of 250° F. But if such a degree of heat cannot be obtained in the drying process, the morsels, before drying, must be submitted to a current of steam of that degree for at least one hour."

THE DISINFECTING POWER OF LYE.

According to the *Revue d' hygiène* for January 20, 1892, Dr. A. Montefusco and Dr. O. Caro have published (*Rivist. intern. d'igiene*, 1891, fasc. 10, 11) a paper on practical, domestic, and economical disinfection by ordinary lye. After an immersion of twelve hours in a solution of boiling lye, cholera and typhoid bacilli and charbon spores were invariably destroyed. If the solution was kept at a temperature of 20° C., sterilization resulted in six hours; at 50°C., one hour's immersion produced sterilization; the spores of charbon were not destroyed in one, two, or less than six hours at a temperature of 100° C., whereas in that time the same result was obtained at a temperature of 25° C. The alkalinity of a litre of this solution of lye was exactly neutralized by 315 cubic centimetres of a normal solution of pure oxalic acid. Frequently in Naples and at many Italian hotels linen is bleached by immersion in a solution of lye that requires 500 cubic centimetres of a normal oxalic-acid solution to neutralize it. The destruction of bacilli is equally assured by six hours' immersion in this liquid prepared for domestic use. Gerloczy, of Buda-Pesth, published a paper some years ago recommending lye as a microbe destroyer for fæcal matters; and recently Schimmelbusch and Behring have confirmed his results in experiments made with various micro-organisms.

EARTH-WORMS AND TUBERCULOSIS.

Dr. Lortet and Dr. Despeignes have published (*Lyon Médical*, No. 29, 1892) a report of their investigations regarding the possibility of earth-worms carrying to the surface tubercle bacilli from inhumated corpses, as Pasteur has shown they do with charbon spores. Tubercle bacilli in sputa and sections of tuberculosis organs were buried in the soil of large flower-pots in which several worms were placed. At the end of some months the worms were removed and inoculated in guinea-pigs, which rapidly succumbed to acute tuberculosis. The organs of the worms contained tubercle bacilli, although no lesion was apparently produced by their presence. These results seem to show an additional desirability of cremation.

CONTAGIOUSNESS OF ACUTE TONSILITIS.

Acute tonsilitis is now considered a general disorder from the beginning infectious, and probably of microbic origin. In certain cases infection is manifested by visceral complications (purulent pleurisy, albuminuria, etc). The pus of tonsillar abscesses contains staphylococci and streptococci. In acute superficial tonsilitis the intensity of the fever, prostration and tedious convalescence, militate in favor of infection. The author has noted several cases of acute sore throat following in about eight days, the appearance in the

waiting-room of the "throat" department of the hospital, of a case of tonsilitis. There had been no previous cases for a long time. These facts seem to prove its contagionsness, although this is not the sole means of the spreading of the disease.

He considers that antiseptic treatment should be instituted and the predisposed persons should be removed from the locality.—Richardiere, *Rev. de Laryngol. d'-Otolog., etc.*

MEDICAL CHEMISTRY.

REAGENT PAPERS FOR URINE TESTING.

The pharmacist may do his physician friends a service at but slight expense to himself by preparing and keeping on hand reagent papers for testing urine for albumin. These are made of good thick filter or blotting paper, as follows: Saturate a sheet of paper with a concentrated solution of citric acid, and let dry. Saturate another sheet with a 3-per-cent solution of corrosive sublimate in a twelve-per-cent solution of potassium iodide (mercuric chloride 3, potassium iodide 12, distilled water 100 parts. Dissolve the potassium iodide in the water, and afterward add the chloride, and dissolve.) Dry this sheet also, and cut both sheets into strips two inches long by one-half wide. Put them up in separate packages and label one "acidifying paper," and the other albumin test paper. In use first acidify a small amount (say 1 ccm.) of the urine with the acidifying paper, then add the test paper, and shake. If albumin be present in a greater proportion than 1:10000 it will manifest itself by separating in flocculent masses.

SPURIOUS SALOL.

It appears that recently some spurious mixtures have been retailed as pure salol. The pure article is found to be readily identified by placing a few drops of nitro-sulphuric acid in a watch-glass and adding a little salol powder. The mixture soon takes a yellow color and, on being stirred about with a glass rod, this color passes to brown, and then to green. As soon as this coloration has been noticed, the watch-glass and its contents are placed in a porcelain measure with about three-quarters of an ounce of water, and the mixture shaken up. The liquid then takes a rose color, and the green color again appears if ammonia is added to the liquid. When resorcin is treated exactly in the same manner, the mixture becomes immediately of a very dark blue color. If then it is treated as above with water, a red color derived from resorcin, is produced, but by the addition of ammonia, it turns blue and not green, as is the case with salol.—*American Lancet.*

RAPID AND ACCURATE METHOD OF DETERMINING FAT IN MILK.

The following paper on this subject was presented by Dr. Henry Leffman and Dr. W. Beam, of Philadelphia, to the Society of Public Analysts at a recent meeting held in London:

Among the processes for the rapid determination of fat in milk, those employing centrifugal machines have been most satisfactory. A procedure devised by us has proved, in the experience of others as well ourselves, rapid, accurate and economical.

For the test we employ a bottle holding about 30 cc., the neck of which is graduated so that a volume of 1½ cc. is divided into 86 equal parts. Fifteen cc. of the milk being taken, each of these represents 0.1 per cent. by weight, of butter fat. The test is made as follows:

Fifteen cc. of the milk are put into the bottle, 3 cc. of a mixture consisting of equal parts fusel oil and strong hydrochloric acid are added, mixed, and strong sulphuric acid poured in slowly, with agitation, until the bottle is filled nearly to the neck.

The liquid becomes hot and the casein is completely dissolved, a dark reddish-brown solution being formed. The neck is filled to near the zero point with a hot mixture of sulphuric acid and water, and the bottle whirled in the centrifugal machine for from one to two minutes. Milk very poor in fat may require from three to four minutes. The volume of fat which rises in the neck can be read off directly or by the use of a pair of dividers.

The points of these are adjusted at the upper and lower limits of the column of fat, allowance being made for the meniscus; then the dividers being placed so that one point coincides with zero of the scale, the exact volume can be read off. If but one test is to be made it will be necessary,

of course, in order to preserve the balance of the arms of the machine, either to make duplicate mixtures or to fill the other test bottles with diluted sulphuric acid.

We give herewith the results of comparative tests with the Adams method, care being taken that the paper used was free from any extractable matter.

The bottles employed in these tests were divided into 100 parts, and the figures here given were obtained by multiplying by the factor 0.86. (As noted above, we now use a bottle divided into 86 parts, and thus save calculations.)

WHOLE MILK.

Sample.	Fat by Adams method.	Fat by centrifugal method.
No. 1.	3.534	3.53 3.56 3.56
No. 2.	3 90	3.95 3.99 3.95
No. 3.	3.03	2.97 2.97 2.93

SKIMMED AND WATERED MILK.

No. 4.	0.56	0.51 0.51

Another determination was made of sample No. 4 by boiling down to one-half volume and treating by the method, the results being calculated to the original volume. This gave 0.55 per cent of fat.

Tests were made to determine the effects of longer rotation in the examination of milks poor in fat. Thus, by four minutes' whirling the last sample gave, with previous concentration, 0.55 per cent of fat.

Comparisons have also been made between the results of this method and the figures for fat as determined by calculation from the specific gravity and total solids, basing the calculations on the Hehner and Richmond tables, and the results of the comparisons are tabulated below:

Sample.	Fat by calculations H and R.	Fat by centrifugal method.
No. 5.	3.60	3.61
No. 6.	4.15	4.10

We find as a result of many tests, that with bottles accurately graduated, and reasonable care in manipulation, especially sufficient rotation, results will be obtained within 0.1 per cent of those of the standard methods.—After *The Analyst*.

NEWS AND MISCELLANY.

CARRIER-PIGEONS AND VACCINATION.

At the last meeting of the Academie de Medecine, Dr. Hervieux, who presides over the Public Vaccination Department at the head-quarters of that learned body (vaccinations from the calf are performed gratuitously at the building in the Rue des Saints-Péres every Tuesday, Thursday and Saturday) read a report by an army surgeon, M. Stroebel, on the transport of vaccine by carrier-pigeons. It appears that one pigeon is capable of conveying in one journey from five to six tubes. The utility of this means of transport in times of war is very obvious, and one can imagine the joy of the representatives of the Army Medical Department at the apparition of a flock of these swift vaccine carriers in a besieged town.—*Lancet*.

THE BACILLUS OF SOFT CHANCRE.

About three years ago *La Riforma medica* published a description by Dr. A. Ducrey of a microbe that he had found in soft chancres, and that he regarded as the cause of that disease. He inoculated, with antiseptic precautions, pus from soft chancres in a series of five or six subjects. While the sores resulting from the first inoculations contained numerous microbes, he did not find more than a single one in the last. The bacillus was short and thick, having rounded extremities, often with a lateral groove, and was either isolated or in chains. He was not able to cultivate it in any of the media employed in the laboratories.

In the June number of the *Annales de Dermatologie et de Syphilgraphie*, Dr. Pusey reports the discovery by Dr. Unna of a bacillus that seems to be the pathogenic agent of the soft chancre. It occurs in the form of chains of two or more bacilli, and is most numerous in ulcerated tissue, though it is found between the cells of the environing tissue. It may be isolated in microscopic preparations by coloration with methylene blue, and then declorized with stryone or ether and diluted glycerin.

This is the only bacillus encountered, and Unna has found it in every soft chancre excised and examined by him. It is found in the tissue alone, unassociated with other microbes, being distributed in a

peculiar manner, and it is not found in simple ulcers or in initial indurated sores. Apparently no effort has been made by Unna to cultivate this organism, or to demonstrate its pathogenic character by inoculation. Ducrey's inoculation experiments were a repetition of the oft-repeated experiments of inoculating the pus of a soft chancre, and they can not be regarded as demonstrating the pathogenic character of the micro-organism be found. In a recent number of the *British Medical Journal* there is a note stating that Quinquaud has confirmed Unna's discovery, having found a bacillus present in prodigious numbers in the lymphatics and intercellular spaces. The question is well worth further investigation, if only to demonstrate that the micro-organism causing soft chancre is but a more virulent form of some well-known bacillus.—*N. Y. Med. Jour.*

THE CONGRESS OF TUBERCULOSIS IN 1893.

According to the *Revue General de Clinique et de Therapeutique* for July 13, 1892, the following questions are to be discussed at the Congress of Tuberculosis in July, 1893: 1. The respective rôles of contagion and heredity in the propagation of tuberculosis. 2. Infectious diseases as agents provocative of tuberculosis; the rôle that is played by certain of them in the localization of tuberculosis, such, for instance, that of gonorrhœa in the development of tuberculosis of the testicle, and that of grippe in the development or aggravation of pulmonary tuberculosis. 3. Remissions in tuberculosis; the duration of these remissions; the methods of recognizing them and of preventing their cessation; the causes of recurrence. 4 The various methods of diagnosticating bovine tuberculosis, especially in determining if inoculation is a sure and certain method of establishing the diagnosis of tuberculosis in cattle. 5. The dangers that may follow the inhumation of tuberculous corpses; the opportuneness of substituting cremation for inhumation; the necessity of destroying the tubercle bacilli in corpses. 6. New methods of prophylactic and curative treatment of tuberculosis, based on its ætiology. 7. The utility of a general inspection of meat. A prize of $600 (3,000 *f.*) will be given for the best work on the question of "The methods of diagnosticating latent tuberculosis before its appearance or after its cure."

THE MORAL SIDE.

In an address before the Marion-Sims College (*Alienist and Neurologist*, July, 1892) Dr. C. H. Hughes says:

The study of the physician includes the moral as well as the physical well-being of man, for the purity of the soul has much to do with the health of the body. The purity of the heart and the dominance of the body by principles of rectitude has much to do with the health and consequent happiness of present and succeeding generations. The direct and hereditarily entailed diseases which are the offspring of sin, and *vice versa*, which have filled and are filling the land with misery and woe, both physician and divine are alike especially interested in preventing. The psychology of sin and the pathology of crime are studies alike for doctor and divine.

The man who is sick in his soul is seldom well in his body, and the soul's affairs do not prosper well when the body is disordered.

Like the divine, the physician may also aid in healing "the wounded in spirit and the broken-hearted," and in "binding up their wounds." He may "minister to a mind diseased," and "with sweet oblivion's antidote cleanse the stuffed bosom of that perilous stuff which weighs upon the heart." He does this effectually through the modern successful management of melancholia.

SIR JOSEPH LISTER.

The retirement of Sir Joseph Lister from his post as Lecturer on Clinical Surgery at King's College marks an epoch in the history of the branch of medicine in which he has made such an indelible mark. The rule which provides for the resignation of teachers on attaining the age of sixty-five—salutary enough under ordinary circumstances to make one wish that even less latitude were allowed—occasionally strikes one as harsh and oppressive. In spite of the tendency to physical degeneration which pessimists recognize as the product of an advanced civilization, Sir Joseph Lister still appears as active and as able as when his fertile discovery opened

up fresh horizons in surgery and gave the British School of Surgery an *éclat* which it has since fully maintained. Sir Joseph retains by special grace, his post as surgeon to the hospital for another year.—*Med. Press.*

FOLK MEDICINE IN RUSSIA.

Slovo, of Kiév, reports some curious instances of popular doctoring in South Russia. The rural dentist places his patient upon a little stool and examines him. If an upper tooth is to be pulled he performs the operation with a simple pair of tongs like that used by cobblers. But if a lower tooth is to be extracted the operation is more complicated. The tooth is tied very skilfully with a violin string. The other end of the string is fastened to a hook in the ceiling. Then the stool is removed with a jerk from beneath the patient, who falls, his tooth remaining on the string, sometimes with the flesh around it. Intermittent fever is cured either by live frogs or by fright. When the sickness breaks out the patient is made to carry about him as many live frogs as can be put in his clothes. If that treatment does not help the patient his fellow-villagers try to frighten him. The most popular method of doing that is known by the name of Likaniye. A crowd of men and women come into the house and raise a quarrel with the patient. They treat him to the loudest and most offensive terms of reproach. That naturally irritates him, and he answers in similar terms. The crowd takes offence at his rude expressions and resolves to lynch him. A rope is put around his neck and he is dragged about until insensible on account of fright.—*The Sun.*

PROFESSOR VIRCHOW ON SICK NURSING.

Where the State controls and subsidizes hospitals, many difficulties occur from which our voluntary system happily exempts us. Among these is what is called "the religious question in nursing." Occasional differences have arisen from time to time in one or other of our hospital establishments, but the strength of the voluntary system is that it admits of great variety and individual adjustment; so that each form of opinion finds the opportunity of development and representation at one place or other, and in its own appropriate form. In Paris the forcible intervention of the municipality has been a great source of heart-burning and dispute, which is not yet allayed, the religious sisterhoods having been evicted from most of the hospitals. In Berlin the same conflict is arising, and in the course of a recent debate in the Berlin Municipal Council, Professor Virchow is reported to have said: "Everybody knows how the struggle between creeds and creedlessness has developed in our days, and how it is constantly becoming keener. Everybody knows that creeds claim supremacy in the tending of the sick, but we are profoundly interested in keeping away this conflict from the sick bed and in permitting the spirit of humanity alone to assert itself there. It is not easy effectually to accomplish this, but the community can and ought to interfere positively in this matter, for it establishes numerous hospitals, and thus has an opportunity of providing for the training of sick nurses without regard to creed. No patient is asked of what religion he is, but is only examined to ascertain whether he is ill and needs to be received into such an institution. Similarly, the sick nurses, who self-sacrificingly devote their services to the sick, ought to be shielded from all religious controversy. We must also not overlook the private tending of the sick in the city, and by means of our schools for sick nurses in the hospitals we ought to provide persons who will protect the patients from the intrusion of religious arrogance. I remark, however, that I am far from accusing religious attendants on the sick of inhumanity or deficient sense of duty." This naturally gives great umbrage to the orthodox and Ultramontane journals, who discuss this utterance with bitter indignation, and complain that while spoken in the name of freedom, it savours of intolerance.—*Brit. Med. Jour.*

NEW METHOD OF EXAMINING SPECIMENS OF BLOOD.

A method of making permanent preparations of blood has recently been described by Dr. R. Muir in the *Journal of Anatomy*, which promises to be of great

use in clinical investigation. The specimens thus prepared can be preserved indefinitely, and compared with others obtained from the same patient at subsequent periods. The method is quite simple. The films are prepared on coverglasses in the usual way, and, before they have time to dry, are placed in a saturated aqueous solution of corrosive sublimate (to which a little common salt may be added) for half an hour. The corrosive sublimate is then washed away with a three-quarter per cent. solution of common salt, and the film is further hardened by a few minutes' immersion in methylated spirit and then absolute alcohol. The specimen can then be stained by the ordinary reagents, very good results being given by double staining with eosine and hæmatoxyline, the red corpuscles being stained by the eosine, while the nuclei of the leucocytes are prominently revealed by the hæmatoxyline.—*Lancet.*

TRAINING BY HYPNOTISM.

The present system of keeping criminals in prison in order to ensure a brief respite from their evil practices is obviously open to criticism from a moral as well as from a prophylactic point of view. The delinquent leaves durance vile a sadder, but not by any means a wiser, man. Hence any method of "suggesting" the propriety of reform becomes a matter of interest. Dr. Bérillon, of Paris, claims to have had great success in the treatment of various bad habits in children by hypnotic suggestion. He finds that eight out of ten healthy children are readily amenable to hypnotic influence, and can thus be effectually weaned from their evil practices, whether these be of a minor and physical form, such as nail-biting, or stammering, or a more serious form, such as a preference for untruthfulness, kleptomania, mere laziness, or cowardice or moral perversity. The next step will doubtless be to galvanize lads afflicted with a chronic indispositon to exertion into a commendable love for study. In the meantime, Dr. Bérillon should be invited to "try his hand" on kleptomaniacs and perverters of the truth who have long since left school. In spite of the fact that the merit of good conduct is minimized by the reform being made compulsory, it would be a boon if, instead of sending kleptomaniac ladies of birth and education to prison, the magistrate were empowered to order them to undergo a hypnotic *séance*, the hypnotizer being required to go bail for their future good conduct. Other things being equal, hypnotism might be preferable to circumcision as a cure for onanism or genito-urinary incontinence, while as a remedy for stuttering, it would have the merit of restoring speech without the tedious course of training which Mr. Behnke and his congeners have found necessary. One is disposed to take a less pessimistic view of life in view of the possibility of hypnotizing children out of the habit of throwing stones at trains, of rendering them truthful, industrious and cleanly, and of desisting from the habit of worrying adults of peaceful proclivities. If Dr. Bérillon can effect this, or even a small proportion of it, he will have earned the gratitude of future generations.—*Med. Press.*

THE EVILS OF MEDICAL EXPERT TESTIMONY.

In a paper published in the July number of the *New York Medical Examiner*, Dr. B. Sachs has called attention to some of the evils attending the methods of eliciting medical expert testimony in our courts at the present day. The principal evils are that the experts are called by the parties to an action instead of by the court itself; that the medical testimony is elicited on verbal examination and cross-examination in court; that the object of such cross-examination is not so much to prove that the data upon which a judgment was founded are wrong as that the person who has passed this judgment has improper motives for appearing in the case or is ignorant of, or has possibly forgotten, some facts, of minute anatomy, that are entirely irrelevant to the case. The author suggests that a law be enacted that will reform the present condition of affairs, and that the expert should be called by the Court, so as to secure impartial testimony and unbiased judgment. —*N. Y. Med. Jour.*